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# MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,  
Mining, Contracting, Engineering, Building, and General  
Business Interests of the South and Southwest

Vol. 66  
No. 4

ESTABLISHED 1882

\$4.00 Per Year  
Single Copy 15 Cents



HE panorama of Southern resources and modern progress, as it is revealed from week to week in the Manufacturers Record, when rightly viewed is more thrilling than any drama ever put on the stage, more interest-compelling than any novel ever written. In this mighty panorama is seen every phase of activity, every power found in human achievements, every victory that man may win over the forces of nature or through the utilization of nature's forces as expressed in soil and climate, in minerals and timbers and water-powers and kindred things. Study this panorama as you see it unrolled in this issue and catch the inspiration that comes from the mighty achievements of men who are developing the most richly endowed region of earth.

Alphabetical Index, Page 110.  
Classified Index, Pages 104 to 109.  
Classified Opportunities, Pages 72 and 73.

BALTIMORE, JULY 30, 1914

# CLINCHFIELD COAL

**CLEAN**



**LUMPY**

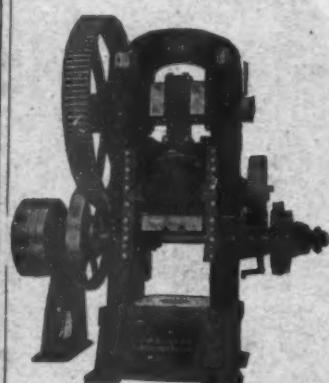
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No. 94

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**MANUFACTURERS AND JOBBERS.** Write for Catalogue.  
**GIBBES MACHINERY CO., INC.** COLUMBIA, S. C.

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That it means low first cost without upkeep expense—better work—fewer accidents—and all-round cleaner and more progressive manufacturing conditions.

But your own sense of logic will compel you to listen to such words as these, penned by those who found

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SOLID STEEL WINDOWS

every whit as profitable as we claimed:

KAHN TAILORING COMPANY  
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So true is this that we have made a talking point of it in some of our advertising, it being a fact that there is absolutely not a dark corner in the entire structure.

Sincerely yours,  
KAHN TAILORING COMPANY.

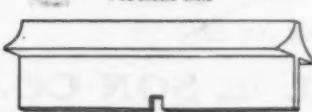
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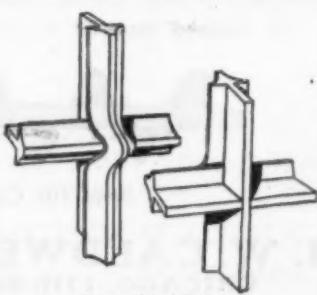
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(Patented)



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for lowest steam consumption for a non-condensing engine. If you are interested in economy and efficiency, you must be interested in the Lentz Engine, and remember this was a world's record.

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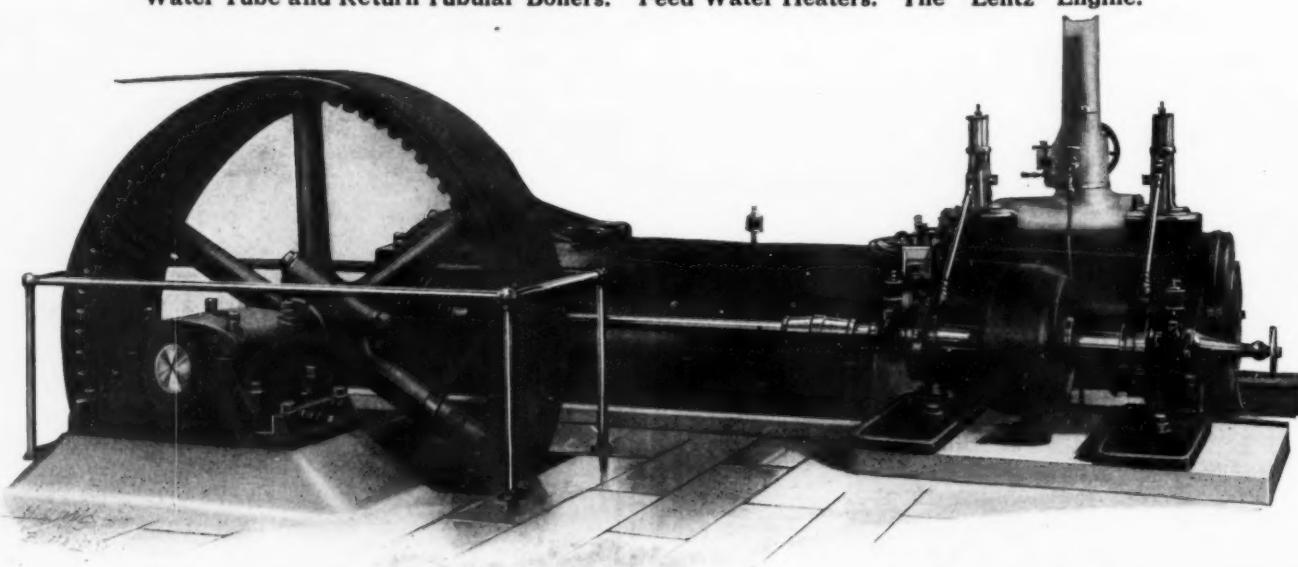
is installed wherever economy, efficiency and durability are considered. It is positively the fuel saver of the future. Now is the time for you to start economizing. Lentz Engines are modified and improved poppet valve Engines.

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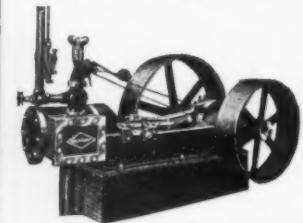
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Engines built in several types to meet a variety of requirements.

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Catalog 6D9 on Request

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T179



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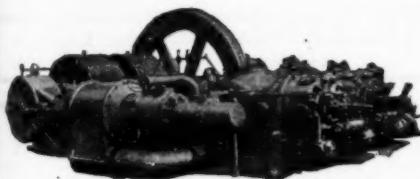
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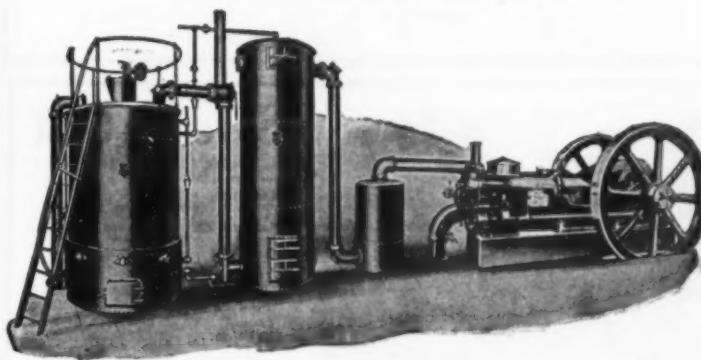
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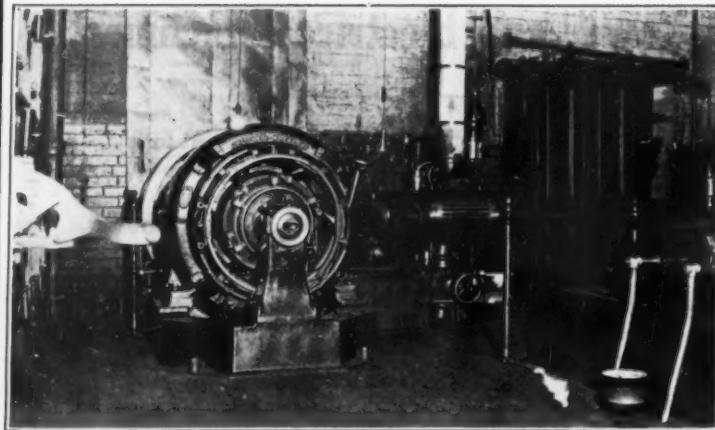


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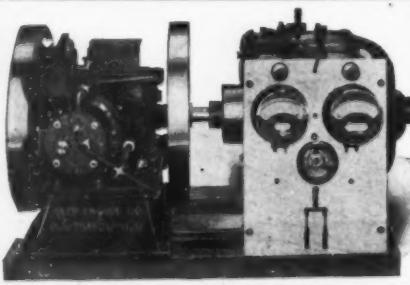
Large corporations employing efficiency engineers are working for economical cost of operation. One of the big leaks in a mis-managed organization is often traced to the power plant, where effort is too frequently made to buy apparatus at the lowest price without first giving due consideration to the reliability of that machine.

The Ligget-Myers Tobacco Company has declared itself for Crocker-Wheeler apparatus, which is proven by the following letter received from Mr. E. V. Williams of the Allen & Ginter Branch, at Richmond, Va.

*"Replies to Mr. Conant's letter of the 8th inst., the pictures you refer to were duly received, for which we thank you. We would also state that the generators of your manufacture, which were installed by us a long time ago, have given very satisfactory service and have caused us very little trouble or repairs."*

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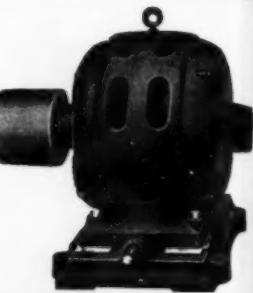
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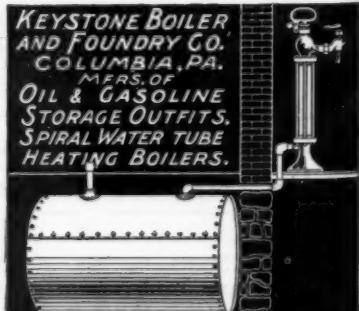
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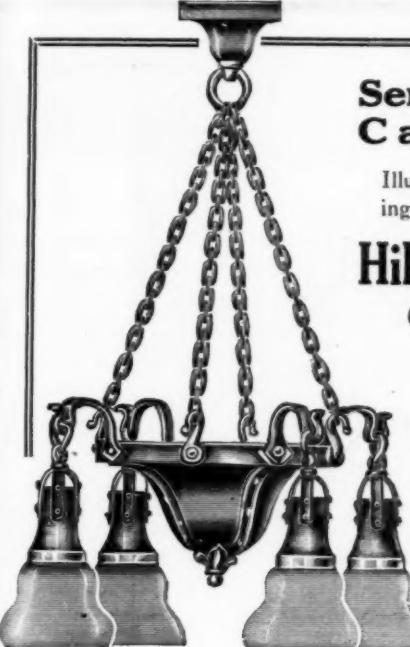
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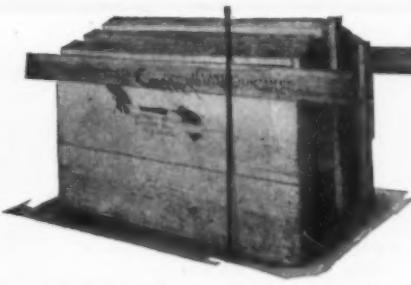
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Gas and Electric

It contains many styles and designs that are in our line only. If you want something "different" investigate! This Catalogue is free and should be in the hands of all builders, architects, contractors, etc.

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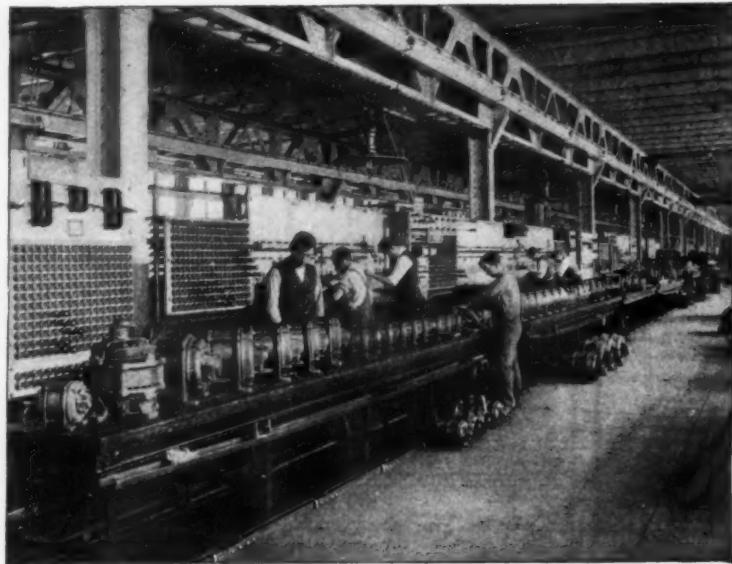
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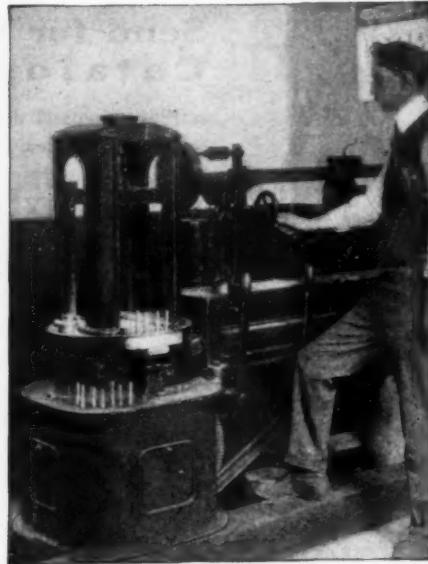
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**Quantity** Quantity production permits the use of automatic machinery, eliminating the defects and variations accompanying hand work. Quantity production also assures prompt deliveries and the employment of a broad and liberal merchandizing policy.

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are worthy of your confidence. You can rely on their ability to stand up under unforeseen or difficult operating conditions and on the year-in-and-year-out reliable service they will render.

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Our product is the result of 50 years  
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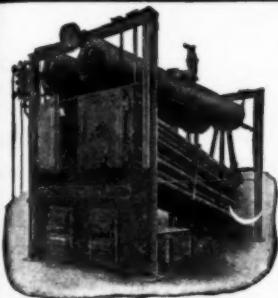
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DRYERS      STACKS      TANKS  
Steel Plate Construction

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"Give me the expansion joint that won't take all my time for packing—one that won't give out just when everything goes wrong." —Engineer.

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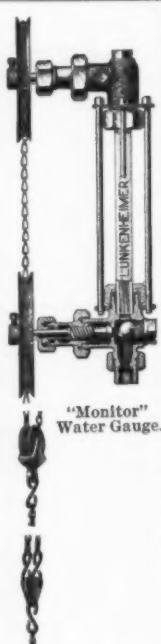
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**Are your boilers at  
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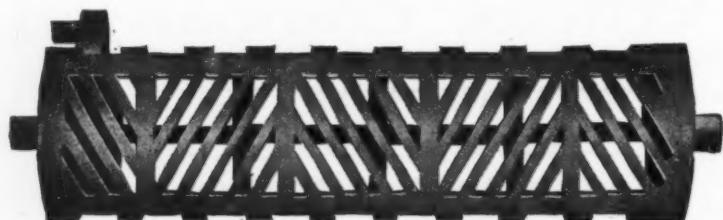
**READ THIS LETTER**

BIRMINGHAM RAILWAY LIGHT & POWER CO.  
Birmingham, Ala., June 22, 1912  
Superintendent Gas Department  
Subject  
Thomas Grate Bar Company  
Birmingham, Ala.  
Gentlemen :  
We have been using your grate bars for the past thirty days burning a mixture of coke and coke braize. Since installing your bars we have dispensed with forced draft, and I would say we are getting 15 per cent increase with less fuel since we only have to clean the fire about one-half as many times as previously.  
Yours truly,  
L. G. Greer, Supt. Gas Dept.

**Are you Burning  
ALL your Coal?**

**READ THIS LETTER****Thomas Elliptic Grate Bars**

installed in a plant mean—bringing a plant to the greatest possible efficiency. Saving money on your coal bills and labor cost. The letter above is only one of the hundreds we have from satisfied users. Our illustrated printed matter will interest you.



Write for it today.

**Thomas Grate Bar Co.**

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## PETROLEUM

HIGH GRADE

Engine Gasoline	Painters' Naphtha
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**OUR KEROSENE AND GASOLINE**  
IS MANUFACTURED FROM  
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SHEET IRON WORK                    IRON AND BRASS CASTING  
East End of Hazel Street            CHARLESTON, SOUTH CAROLINA

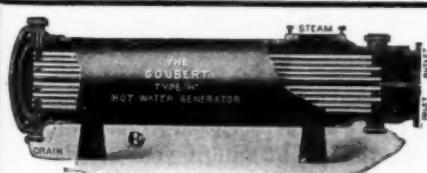


### Over 700 Otis Heaters in Buffalo

which is fine testimony for the Otis Heater. Within the last 23 years the Barber Asphalt Paving Company of New York City has installed forty heaters in their different Steam Plants. The Otis Heater saves the waste. That's the reason.

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Is a Necessity for Large Institutions

An unfailing supply at the right temperature is furnished by the **GOUBERT HOT WATER GENERATOR**

The water tubes are surrounded on all sides by live or exhaust steam. No cold water can pass out. Thermostat control if desired.

Write for Bulletin 209

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### Leading Railway Lubricating and Illuminating Oils of America

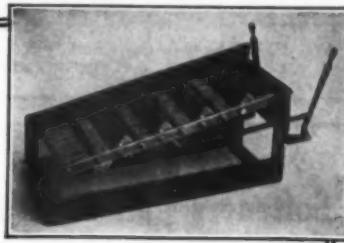
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PERFECTION VALVE and SIGNAL OILS  
are standard the world over

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You are interested in greater capacity, efficiency and profits for your plant. Won't Less Fuel—Smoke—Labor interest you? Investigate the

#### HUBER HAND STOKER

Unequalled for simplicity, durability and efficiency. Latest practical development of a grate with stoking features. Cleaning reduced to a minimum.

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gives a lubrication service that will stand up under great stress, and when needed most will not be found wanting. We will be glad to discuss the lubrication of your plant at your convenience. It is a matter worth your while.

Your dealer sells Albany Grease—if not, order direct.

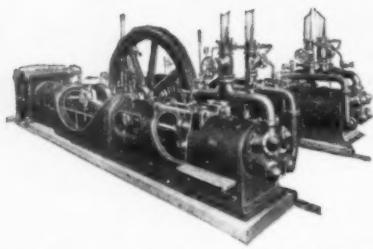
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ADAM COOK'S SONS, Props.

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Against the costly shutdowns of the midsummer rush by our methods of manufacture, large factory, experienced engineers, modern shop tools and highest class materials.

These combined produce a refrigerating machine that is right in design, right in materials, right in construction; one that stands up and keeps going under severest overloads, that you can depend on to stay with you through the hardest rush. We build it for that purpose particularly. It has been doing it for over 30 years.

Our Catalogue O8 tells more about it. It's free for the asking.

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WAYNESBORO, PA.

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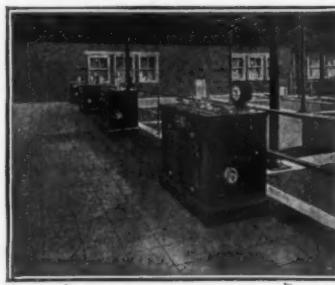
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We build Filters and Softeners for any purpose and of any capacity.

*"A Laborer can operate them"*

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### Gravity and Pressure Filters

THE NEW YORK CONTINENTAL JEWELL FILTRATION CO.  
111 Monroe St., CHICAGO 15 Broad St., NEW YORK  
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A recognized necessity in modern buildings  
of the office, hotel and apartment class.  
Send for circulars and full information to the sole makers.

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High Grade Firebrick  
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MEXICO BRICK & FIRE CLAY CO., MEXICO, MO.

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Plants in Alabama, Pennsylvania, Ohio, Kentucky and Indiana  
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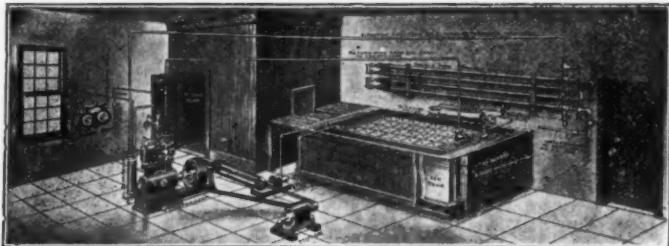
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"REFRACTO"  
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Capacity 20,000,000 Per Year

Union Mining Co.

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The business we are particularly proud of is our repeat orders—orders for additional equipment from old customers who are already operating one or more "H. & C. Safety" Compressors.

Our "come-back" business is a big business in itself and positively proves we have given a big value.

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Refrigerating and Ice Making Machines,  
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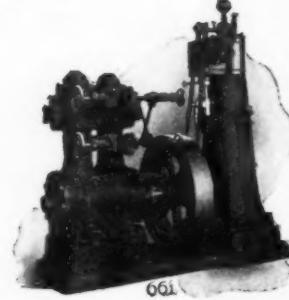
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CORLISS ENGINES

### Mechanical Refrigeration Pays

There is no longer any doubt on this point. And then it is more sanitary, more reliable, and more satisfactory in every way.

Retail Dealers in Perishable Goods, Meat Markets, Creameries and Ice Cream Factories, are everywhere reaping handsome profits by installing modern Refrigerating Plants.



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Plants from 1/2-ton Refrigerating Capacity and upwards.

Write us for information and prices.

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Ice-Making and Refrigerating Machinery exclusively  
YORK, PA.

Branches in All Principal Cities



We Specialize in the  
Design, Manufacture and Erection  
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**ELEVATED STEEL TANKS  
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SHOPS : Chicago, Ill.; Greenville, Pa. (Pittsburgh District);  
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OFFICES:

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"The Tanks with a Reputation"  
**CALDWELL TANKS**

are made from the genuine Louisiana Swamp Cypress, which seems to have been specially designed by nature for tank purposes, as it resists wear and decay amazingly. The use of this wood combined with our scientific hooping and skilled construction causes the Caldwell tanks to give a lifetime of high-class service with a minimum of attention and repair.

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Tanks { Steel—Wood } Towers  
Wind Mills { Galvanized } Pumps—Gas Engines

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Mechanically Correct in Design and Workmanship  
Any Size. Erected Anywhere

Structural Iron Work Stand Pipes Boilers

R. D. COLE MFG. CO. NEWNAN, GA.

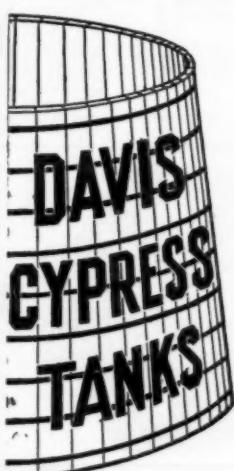
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FOR ALL PURPOSES

Air, Gas, Water, Oil, Chemicals

Write for 32-page fully illustrated Catalog,  
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*A Davismade Tank*

is the combination of  
Cypress of the highest  
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years' experience in our  
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LOWELLVILLE, OHIO  
Capacity 50,000 gals.  
Height 119 ft.

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**TANKS ON TOWERS  
STANDPIPES  
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Tanks Anywhere for  
Any Service

If Made of Steel We Make It

**Structural Steel Work**

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CHATTANOOGA, TENN.

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**BOILER WASHER and  
FIRE EXTINGUISHER**

Can be attached to Locomotive.

**SELF-ACTING INJECTOR** The only Injector for Lumber  
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**LIGHT FOR YOUR NIGHT SHIFT**

Milburn Portable Acetylene Lights—100 to 20,000 Candle-power.  
Milburn Oxy-Acetylene Plants for Welding and Cutting.

ALEXANDER N. MILBURN CO.

BALTIMORE, MD.

*There Is One Place Where*

## LEVIATHAN or ANACONDA

can't "make good." If you need a belt that slips you want some other make.

Under all other conditions Leviathan or Anaconda will do your work in a way that will show profit over any other kind of belt.

An order for a 26-inch 8-ply elevator belt was given us a few days ago because the other LEVIATHAN in that plant has never stretched. This is not a happening. It is a LEVIATHAN and ANACONDA habit.

Letting us show you means dollars to you.

### Main Belting Company

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### A Trade Mark Is Only Valuable When Placed On The Goods—



Send for a trial Belt—  
"Our Best Salesman"



Then it acts as a signed statement that the goods are as represented and holds the manufacturer to his written word.

This trade mark on every foot of Schieren's Duxbak Waterproof Leather Belting means that the Belting is waterproof and chemical fume proof, perfect in material and workmanship.

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ESTABLISHED 1860

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### THE "CHESAPEAKE" BELT PULLS

Transmits more power than any other Canvas Stitched. Fully Guaranteed.  
Chesapeake Belting Company Baltimore, Md.

Get this Book on Transmission



If you have no Rope Transmission you should know why it is best. If you have Rope Transmission you'll want to know why Columbian Manila Transmission Rope is best. The book is FREE.

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All that its name implies and then some—the ONE belt for hard and unusual drives—the harder the better. Send for Spartan Booklet—we can interest you if you will let us.

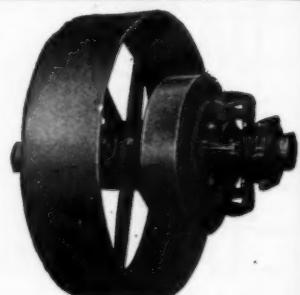
The Graton & Knight Mfg. Co.  
Worcester, Mass.



### T. B. WOODS SONS CO., CHAMBERSBURG, PA.

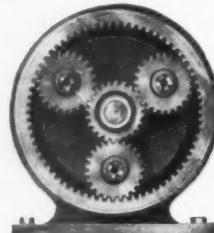
Manufacturing Engineers

Modern and Approved Appliances for the Transmission of Power



Upon request, our new and complete Catalog No. 55 will be mailed promptly to any user of power.

### O. K. SPEED REDUCING TRANSMISSIONS

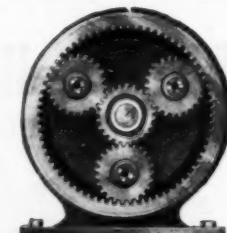


SEND FOR BULLETIN No. 4

GIVE RESULTS WHERE OTHER DRIVES FAIL  
DESIGNED FOR HEAVY DUTY AND CONTINUOUS SERVICE  
A HIGHLY EFFICIENT PLANETARY TRANSMISSION



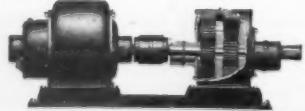
The above cut represents seven Model B Speed Reducing Outfits; ratio, 25.6:1; Direct connected to General Electric Motors, 5 H. P., 1140 R. P. M., giving a driven speed of 45 R. P. M. Motors and reducers are mounted on cast iron bedplates. The above outfits operate feed driers in a large cereal plant.



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SPECIALISTS IN CUT GEARS. We are fully equipped with the most modern machinery for the Accurate production of Cut Gears.



O. K. REDUCERS ARE MADE IN RATIOS AS HIGH AS 1600:1 OR MORE.

INVESTIGATE BEFORE DECIDING ON YOUR PLANT EQUIPMENT.



### The Difference in Manila Ropes

An actual test of these two coils of  $\frac{1}{2}$ -inch diam. rope bought in the open market—a PLYMOUTH rope and a "so called" Manila rope—told this interesting story of comparative rope values:

	"A"	"B"
Length of rope in coil of 97 lbs.	1250 ft.	1070 ft.
Weight of lashings . . . . .	1 lb.	3 lbs.
The test proved:		
Wt. per 10 ft. of rope . . . . .	13 $\frac{3}{4}$ oz.	14 $\frac{1}{2}$ oz.
Strength at breaking point . . . . .	2907 lbs.	1450 lbs.
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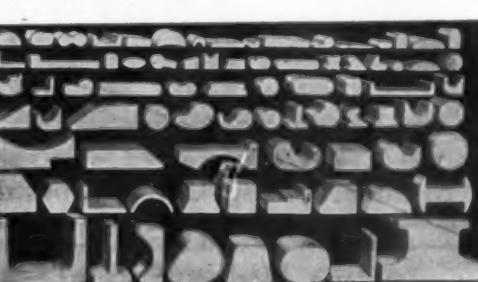
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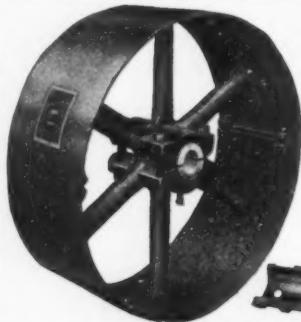
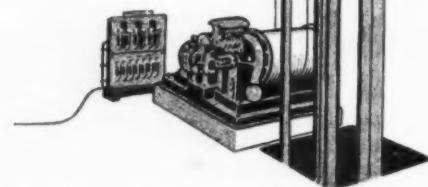
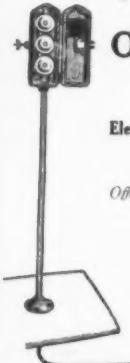
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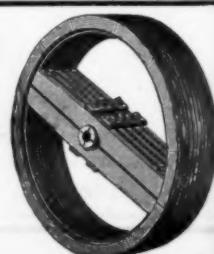
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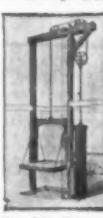
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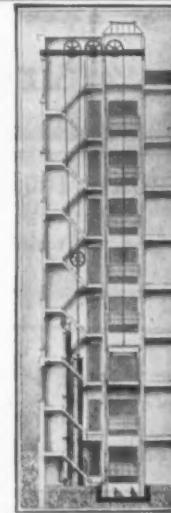
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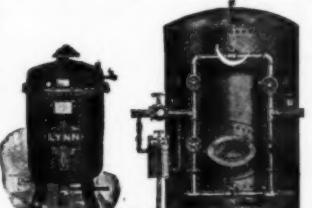
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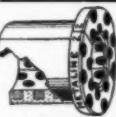
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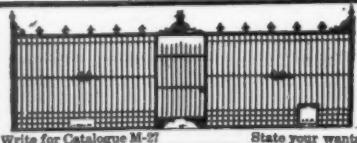
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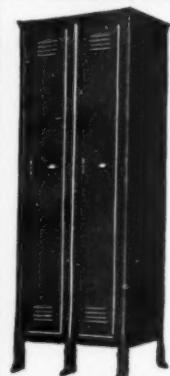
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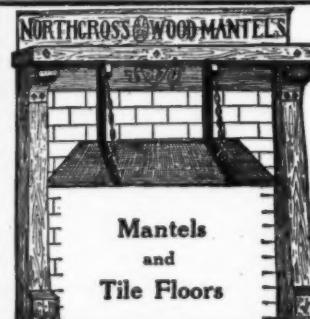


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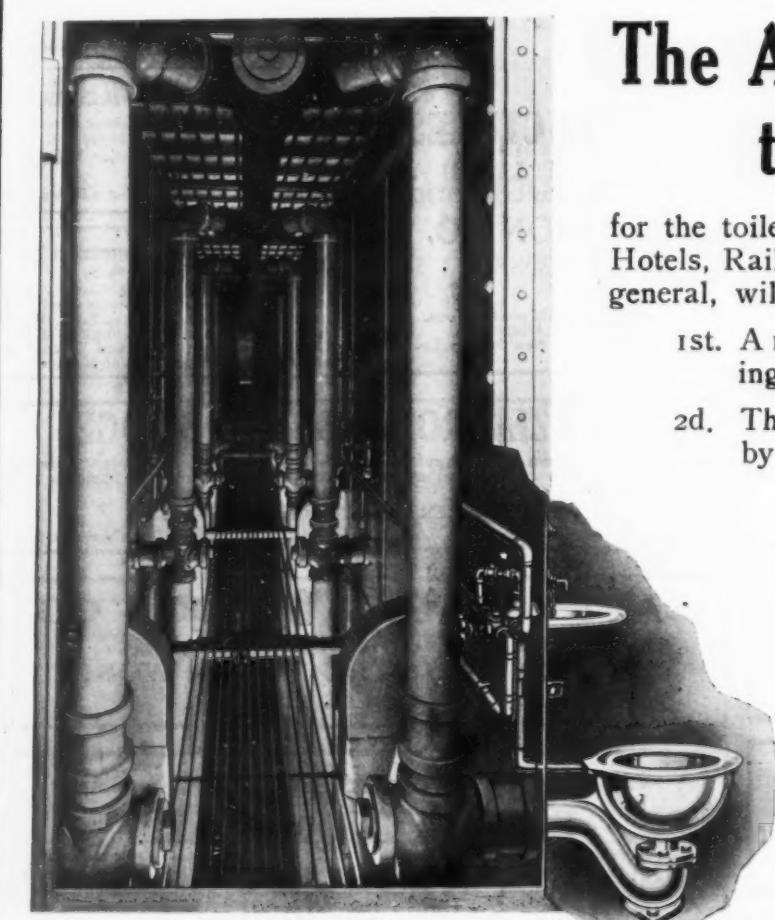
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- 3d. This is arranged for when the plant is installed, without extra piping or valve connections.

There are no pipes or valves or faucets in the toilet room. Just a wash basin, a toilet and a push button for each.

In cases of unruly prisoners, or insane patients, or general carelessness, the installation of the DUFFY PATENTED DEVICE saves annoyance and promotes sanitation by providing a means of flushing the toilets.

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## HEADQUARTERS:

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Candler Building  
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### All Kinds and Colors of Face Brick

Dry Press Fire Flash Impervious  
Smooth and Rough Texture

Representing the Product of Fourteen Factories  
Including SIBLEY-MENGE and Leading Northern  
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**BRICKS—TILES—FIREPLACES**  
Every Kind—Impervious—Special Designs  
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“Ratine”--“Cravennette”--“Cherokee”  
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**BEDFORD STONE** SAWED, PLANED,  
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Estimates Promptly Furnished.  
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MANUFACTURERS OF  
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**Atlanta Architectural Terra Cotta**  
Atlanta Terra Cotta Company  
514 Third National Bank Building, ATLANTA, GA.  
(Six miles from Atlanta)

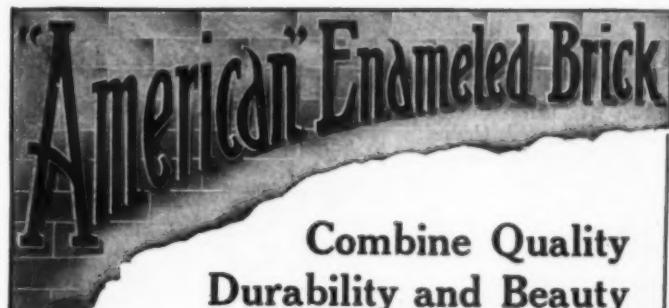
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South Carolina Blue Granite  
THE STONE OF QUALITY

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TERRA COTTA**

Plaster Ornaments, Metal Windows, Doors,  
Brick, etc. Can save you money.  
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They are specified by discriminating architects, contractors, and owners—the men who demand perfection in brick.

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The only excuse for such roofs is ignorance or thoughtlessness. And there is mighty little satisfaction in such an excuse.

If you want to cover your house with a roofing that outlasts the building, that defies not only fire, but also the "tooth of time," put on

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The reason? Our slate is mineral, and therefore does not burn; non-metallic, and therefore does not rust; non-porous, therefore does not absorb anything and cannot decay.

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Gears of quality at moderate prices bearing our trade mark are guaranteed.

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Manufacturers of GENUINE BANGOR ROOFING SLATE,  
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MAKE A PERFECT ROOFING AT A SMALL COST. ABSOLUTELY FIREPROOF AND CAN BE LAID RIGHT OVER WOOD SHINGLES. WILL OUTWEAR ANY OTHER SHINGLE, LIGHTER AND MORE ARTISTIC THAN SLATE.

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FOR SECURING BRICK TO FRAME IN  
BRICK VENEERED BUILDINGS

When bedded in mortar they are practically immovable, as every part, top, bottom and sides, resists movement, uniting the frame, sheathing and brick into one strong and solid body. Also

Wall Ties, Wall Plugs, Sash Pulleys,

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Against Burglars  
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The cost is small.

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## Eclipse Mortar Colors

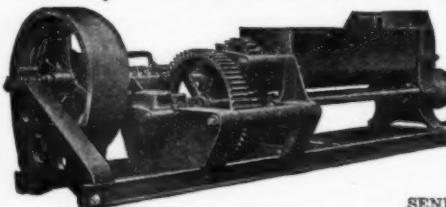
Our Mortar Colors (red, brown, buff and black) are the strongest and most economical on the market. They will do twice the service of other Mortar Colors. We also manufacture coloring for sand-lime bricks and cement blocks, and are shipping it all over the country.

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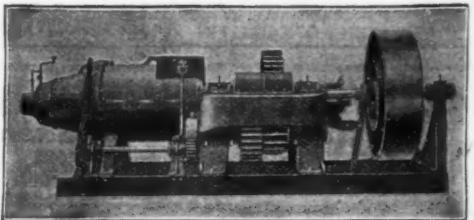
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Specially designed for working Southern Clays. Six sizes of machines. Six to one hundred thousand bricks per day. Hundreds in daily use. Over 20 years' experience.

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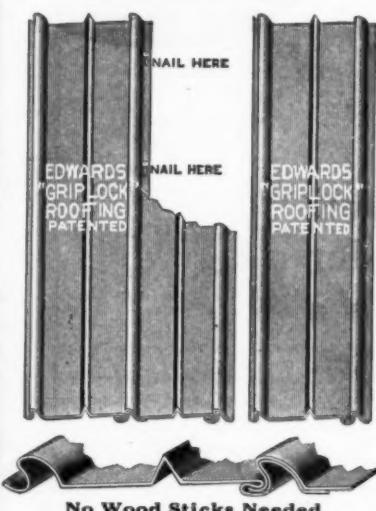
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Made from Best Quality Open Hearth Steel  
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No Wood Sticks Needed  
Not a Single Nail Head Exposed

Patented "Griplock" Roofing will surely interest you.

In sheets 5 to 12 feet long, with 24 inch covering width—Painted or "Tightcote" Galvanized.

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The World's Largest Manufacturers of Metal Roofing,  
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## Last a Lifetime

CORTRIGHT Metal Shingles cost no more than good wood shingles, yet they last a lifetime, are rain and storm-proof, wind-tight, fire-resisting and add greatly to the appearance of any structure.

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have been in successful use for almost thirty years, and many roofs put on twenty and twenty-five years ago are as good as new today.

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## ASPHALT ROOFING

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The Prepared Roofing which is Absolutely Tight.  
Send for samples showing our 6-inch lap (Patented November 18, 1902).

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## To the South Pole

with Captain Scott  
and

## To the North Pole

or thereabouts with  
various other explorers and

## To All Points Between

has RU-BER-OID gone—  
invariably doing what is  
claimed for it.

**RU-BER-OID**  
PRONOUNCED  
"RU" AS IN RUBY  
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Ask us for a copy.

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Both **RU-BER-OID** and **KA-LOR-OID** consist of a felted fabric which is saturated and coated with flexible **RU-BER-OID** Gum. This Gum is waterproof and as flexible as new rubber. Yet, unlike rubber, it retains these qualities when exposed to the elements. Rubber rots after slight exposure. **RU-BER-OID** and **KA-LOR-OID** retain their life and flexibility under the severest weather conditions.

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For Leaky Cellars & Pits  
**IMPERVITE**  
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For all requirements of Ginners and Growers. Write to nearest Continental Sales Office for Catalogue H.

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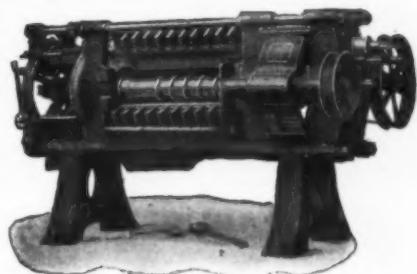
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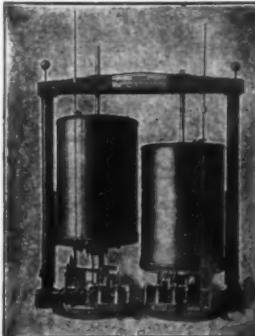
## COTTON SEED OIL MILLS

are not installing the ANDERSON OIL EXPELLER without good reason. It makes better oil and better cake at less cost than other machinery. Works whole seed or meats only. Let us explain.

**Oil Mill  
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## Cottonseed Oil Machinery Linseed Oil Machinery

Hydraulic Presses  
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Complete Equipment Latest and Best Improvements  
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DESIGNED TO MEET REQUIREMENTS

WE MANUFACTURE A FULL LINE OF COTTON SEED OIL MACHINERY  
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Not a known instance of replacement by any other kind of pipe.

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Rust proof, rot proof, wear proof.

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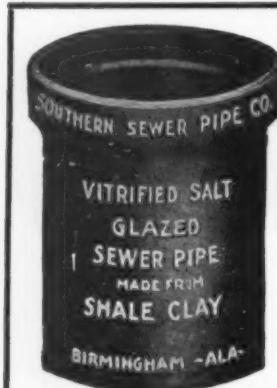
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## Standard SEWER PIPE

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Made in all sizes. The first cost is not high, and the low cost of maintenance and lasting qualities make it by far the most economical pipe.

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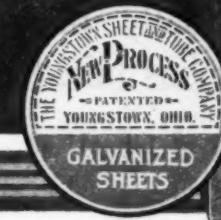
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National Tube Company, Pittsburgh, Pa.

## THE YOUNGSTOWN SHEET AND TUBE COMPANY



YOUNGSTOWN, OHIO



**YOUNGSTOWN**

### Some Reasons Why "Youngstown" Pipe Should Be Specified

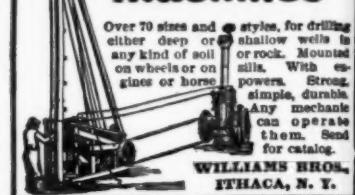
No stronger or more ductile pipe can be made—it is as durable as any pipe that can be made, regardless of claims of special processes of manufacture.

"YOUNGSTOWN" pipe is made entirely in one mill by one organization from the ore to finished product, hence the uniform quality at all times.

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"YOUNGSTOWN" pipe is made full standard weight.

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## Salt Glazed Vitrified Sewer Pipe

## Stove Pipe Wall Coping

## Fire Clay Flue Linings

MANUFACTURED BY

**Bibb Sewer Pipe Co.**  
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INQUIRIES SOLICITED

Use Our No. 2 Sewer Pipe  
for All Drainage Purposes

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much cheaper and easier to install than Cast Iron Pipe. Lasts as long. Delivers 15 to 20% more water when new and the longer it is used the less frictional loss. Over 50,000 miles in use and giving entire satisfaction.

Get full details in our catalog.

**A. WYCKOFF & SON COMPANY**  
ELMIRA, N. Y.

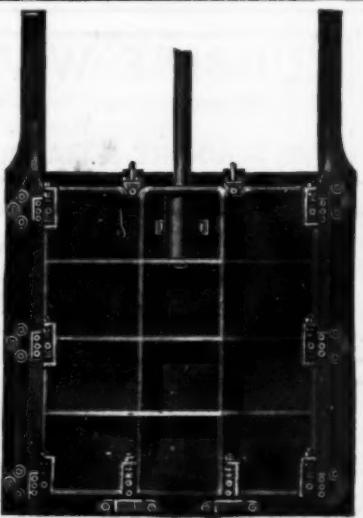
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None Better  
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Estimates and Plans Furnished  
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The Slogan of the Cameron—“Character: The Grandest Thing.”

## Cameron Pumps

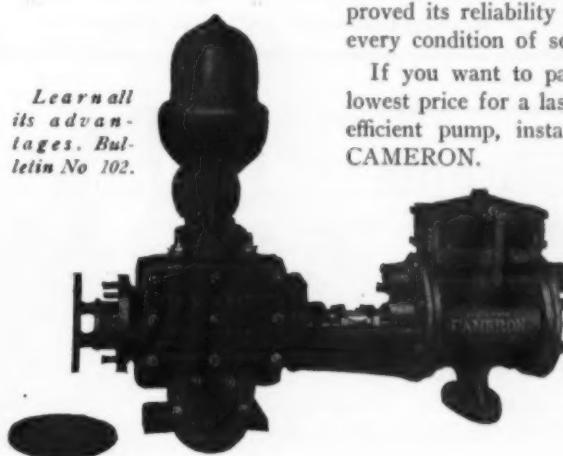
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The Removable Bushing is of iron or composition, which can be turned within the water cylinder as it wears, greatly increasing the length of service, and just as greatly decreasing the cost of maintenance.

In buying this pump you buy a pump that is backed by 50 years' experience—that has proved its reliability under every condition of service.

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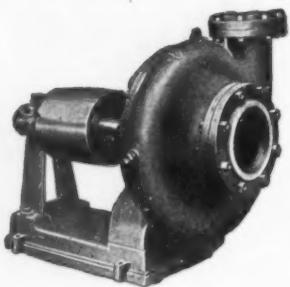
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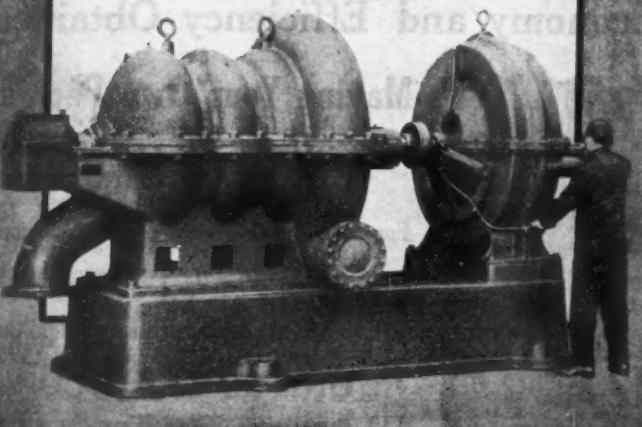
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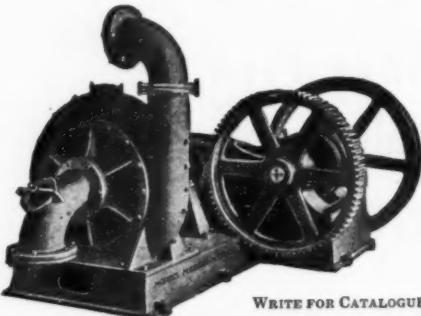
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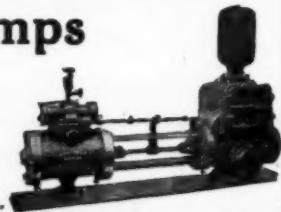
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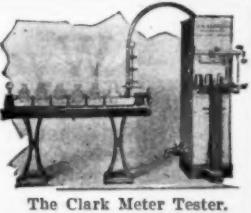


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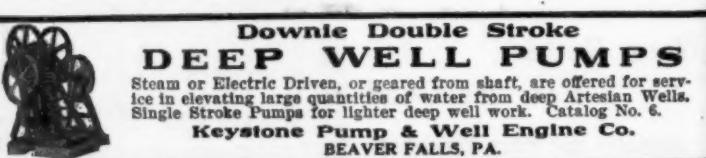
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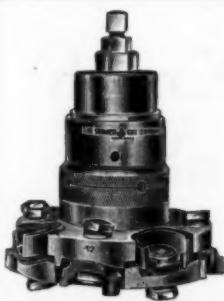


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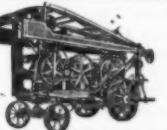
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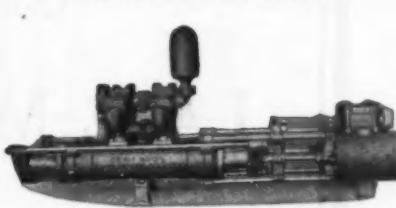
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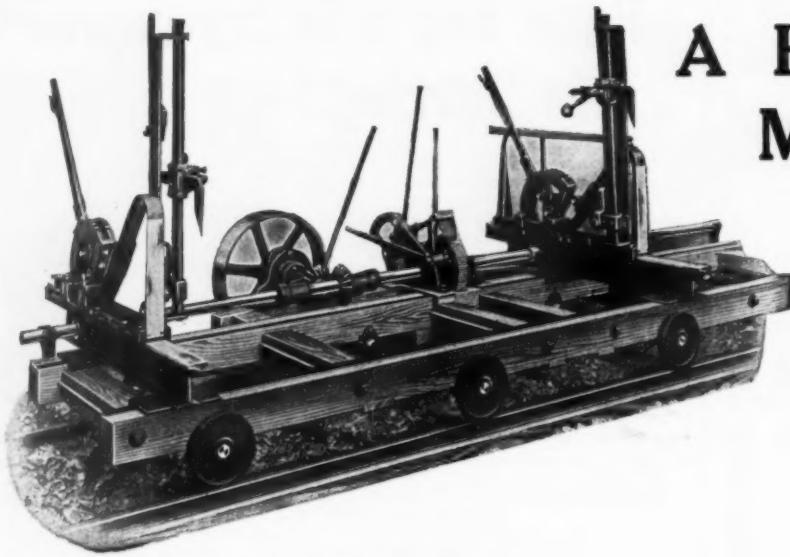
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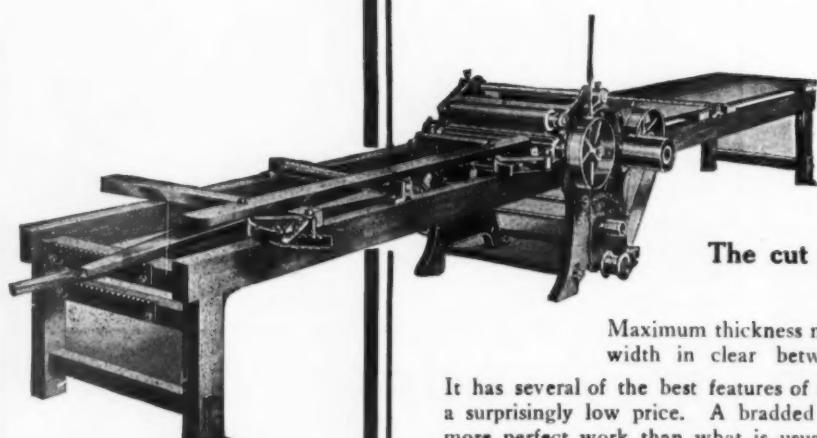
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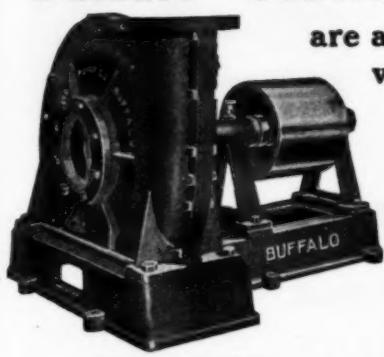
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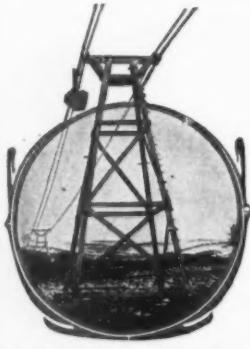
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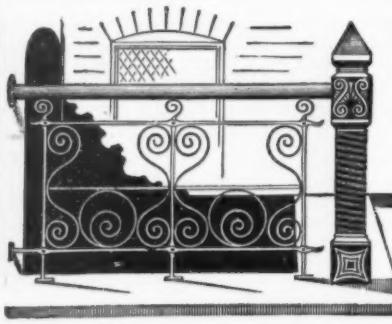
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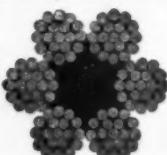
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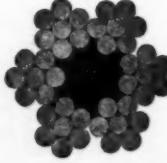


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VOL. LXVI. No. 4. }  
WEEKLY.

BALTIMORE, JULY 30, 1914.

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## "INESTIMABLE WEALTH OF THE SOUTH PLACED BEFORE THE WORLD."

L. F. PRATT, assistant general manager of the Southern Coal & Coke Co. of Knoxville, in a letter dated July 25, says:

As a subscriber to your paper through the firm with which I am connected, I have for a number of years kept in touch with the great work you are carrying on in connection with placing before the world the inestimable wealth of the South. Very few of us fully appreciate the great good the MANUFACTURERS RECORD is doing in furthering the development of our section.

The MANUFACTURERS RECORD publishes this not in any spirit of self-laudation, but merely that the statements made by Mr. Pratt may impress themselves upon our readers throughout the country. Mr. Pratt but voices what thousands of others are saying. If these enthusiastic commendations were all translated into actual realities, and all who thus praise the MANUFACTURERS RECORD were, like Mr. Pratt, to be found on its subscription list, it would be difficult to run printing presses enough to take care of such a circulation.

The MANUFACTURERS RECORD presents for serious consideration to its readers throughout the South the statements made by Mr. Pratt, since this publication is not so much an individual property as it is an institution for the advancement of the South. The more widely it is read, the more general its circulation, the greater will be the work which it can accomplish for hastening that day when abounding prosperity shall be seen in every village and in every town and city and throughout the large agricultural regions of the great land that stretches from Maryland to far-away Texas.

The MANUFACTURERS RECORD is of the South, by the South and for the South. It has never sought business, either through subscriptions or advertisements, on the plea of "support," but it has sought to enlist the co-operation of the people of the South in broadening its influence and its work, in extending its circulation in order that it may achieve still greater things for the upbuilding of this marvelously endowed region, and because it offers in return far more in value than it receives. It has the testimony of thousands of the foremost men of the country as to its very great value and profit to them.

Every subscriber is a copartner, a coworker with the MANUFACTURERS RECORD in this campaign. There are many thousands of men in the South abundantly able to subscribe to it, who are just as enthusiastic about the work of the MANUFACTURERS RECORD as is Mr. Pratt and others like him, and to whom the MANUFACTURERS RECORD would be of very great service and value, but who are not found on its subscription books. Some of them depend upon borrow-

ing it from friends, some read it in their clubs, some rejoice in the work that it is doing, but are not willing to be copartners in that work to the extent of an annual subscription.

We seriously invite to a consideration of these facts every thoughtful man who is interested in advancing the prosperity of the South, every man who hopes to see his own business increase by increasing prosperity of the section, every man who hopes to see his children benefited and their opportunities broadened by the development of the resources of the South and the advancement of its wealth, and every man who wants to see the upbuilding of the South proceed on the lines of truth and solidarity and right thinking, which for the last third of a century the MANUFACTURERS RECORD has persistently been advocating.

## DEEPEN THE HARBORS OF THE SOUTH AND TRADE WILL FOLLOW.

FREEPORT, Tex., which is coming so prominently to the front by reason of the sulphur mines that are being operated there, as well as by the general development of the trade and shipping of the place, is endeavoring to secure from the Government an appropriation for deepening the harbor. At a recent meeting held at Freeport a statement was submitted by the representatives of the town and of that section to Col. Lansing H. Beach, division engineer, Corps of Engineers, of the War Department, setting forth the reasons why the Government should undertake to provide deeper water at Freeport. Attention was called to the fact that the sulphur mines at that point, which have been under development for about a year or more, are now producing at the rate of about 40,000 tons per annum, and that the additional plant under construction, and which it is expected will go into operation by the first of September, will increase this to about 120,000 tons per annum, or the equivalent of 40 steamer cargoes of 3000 tons each, nearly a ship load a week, and the company expects to keep on steadily expanding its output. On this sulphur development this report says:

The immense sulphur field at Freeport is the largest in the world in demonstrated area. The United States now leads the world in sulphur production, and everything which contributes to assist the development of this industry is of importance to the nation. The Louisiana field produced over 500,000 tons in 1913 and over 700,000 tons in 1912—an average for the two years of 600,000 tons, sufficient to load 200 ships of 3000 tons each.

The Freeport field, being more extensive and just beginning its substantial production, will originate enormous outbound tonnage, increasing year by year, and is expected in time to equal the Louisiana production; hence deep water in the Freeport channel to carry this tonnage is a commercial necessity, and will assist in maintaining American supremacy in sulphur production, which, until lately, was enjoyed by Sicily.

One of the largest uses to which sulphur is put is in the process of manufacturing wood-pulp paper. The Great Northern Paper Co., one of the largest manufacturers of paper, has made arrangements for the distribution of its products to the newspapers of the Southwest and interior through Freeport, contracting many thousands of tons with the Seaboard & Gulf Steamship Co. This paper company operates its own steamers, carrying paper from its mills in New England to the Eastern seaboard. Its representatives say that it will be an obvious economy to have the boats continue to Freeport with paper for the Southern trade, and return loaded with sulphur for delivery to the mills, and that with deeper water this will likely become an actuality, but it cannot be considered under existing conditions.

That all ports of the Gulf coast of Texas, as well as at other points in the South, should be given every possible consideration by the National Government, of course, goes without question. The enormous back country tributary to these ports makes it essentially important that at every available point

deep water should be secured for the benefit of the people at large. There is almost no limit to which the coastwise and foreign trade of the ports of the South can be developed as facilities are provided. This would be true even without an Isthmian Canal, but with the opening of the canal to the world's commerce trade will center in the Gulf of Mexico to a far greater extent than would otherwise be the case.

In spending money for the deepening of the rivers and harbors of the country the Government is making a wise investment, not for local benefit, but for national advancement. No more foolish and unjustified position could be taken than the criticism often raised against the general plan of the river and harbor bill. That is the one Government expenditure which has probably produced greater results for the amount of money expended than any other national expenditure. The amount spent for river and harbor work ought to be greatly increased instead of being decreased as some have advocated.

Some years ago the late T. G. Bush, one of the foremost business men of Alabama, was presenting the need of Mobile for Government expenditure to secure a deeper channel. One member of the committee, with the narrow view sometimes seen, in reply to Mr. Bush took the ground that the commerce of Mobile was not sufficiently large to justify such an expenditure. Mr. Bush's reply was: "You cannot create commerce where the facilities for commerce do not exist, but if you will deepen Mobile's harbor to the depth suggested, commerce will rapidly develop to take advantage of the strategic location of the port."

The splendid development of Mobile of recent years has demonstrated the wisdom of the point made by Mr. Bush. One might as well say that there was no freight business passing over a railroad in a region in which no railroad existed as a reason for not building a road as to say that harbor improvements should not be made because there was not sufficient commerce there to justify them. Build the railroad through the country, if it is a country of natural advantages, and the traffic will be created. Deepen a harbor which has a strategic location for drawing inward and outward bound coastwise and foreign business, and traffic will grow in proportion to the facilities given.

The appeal of Freeport is merely the appeal of every strategically located port in the country where the local conditions and the back country give the assurance of a great increase in business as soon as sufficient depth of water is provided to make this possible. In this particular case Freeport starts with a sulphur output of value to the whole country, and if the statement made be true that "the immense sulphur field at Freeport is the largest in the world in demonstrated area," then this is only another illustration of the wonderful potentialities of the South which make this section the nation's greatest asset, the development of which will yield the largest result to the profit of the nation.

## SOUTHERN COAL PRODUCTION.

IN a year of record-breaking in coal production in the United States the South in 1913 broke its record in mining 142,508,567 tons of coal, nearly one-quarter of the total output of the country. When the country made the record of more than 200,000,000 tons in 1897, nearly trebling its output in seventeen years, the fact was worthy of comment. But in the next ten years it more than doubled its 1897 output, and if this year's production only equals that of 1913 the record of seventeen years ago will be trebled. The showing made by the South is propor-

tionately much stronger, as indicated in the following table:

States.	1880.	1903.	1913.
Alabama .....	323,972	11,654,324	17,678,522
Arkansas .....	14,778	2,229,172	2,234,107
Georgia .....	154,644	416,951	255,626
Kentucky .....	946,288	7,538,032	19,606,600
Maryland .....	2,228,917	4,846,165	4,779,839
Missouri .....	844,304	4,238,586	4,318,125
Oklahoma .....	120,947	3,517,388	4,165,770
Tennessee .....	495,131	4,798,004	6,903,784
Texas .....	*125,000	926,759	2,429,144
Virginia .....	43,079	3,451,207	8,828,068
West Virginia.....	1,829,844	29,337,241	71,308,982
Total .....	7,126,904	72,953,929	142,508,567
United States.....	71,481,570	357,356,416	570,048,125
	1884.		

In 1880 West Virginia ranked second among the States of the South in coal production, with an output of 1,829,844 tons. Today it ranks second among the States of the country, next to Pennsylvania, and its 71,308,982 tons in 1913 were within 172,588 tons of the country's production in 1880. In the thirty-three years Kentucky advanced from third place to second among the Southern States, its annual output increasing more than twenty times, from 946,288 tons to 19,606,600 tons, and Alabama advanced from sixth place to third, with an increase from 323,972 tons to 17,678,522 tons, or nearly sixty times.

In the ten years between 1903 and 1913 the South's output increased from 72,953,929 tons to 142,508,567 tons, or by 69,554,638 tons, equal to 95.3 per cent., while the increase in the rest of the country was from 284,402,487 tons to 427,539,558 tons, or by 143,137,071 tons, equal to 50.3 per cent. The 1913 output of the South was more than twice that of 1900 and nearly twice that of the country in 1880.

#### WHEN THE SOUTH ENTERTAINS CONVENTIONS.

**P**AUL J. KRUESI, president of the Chamber of Commerce of Chattanooga, Tenn., sends the following kindly message to the MANUFACTURERS RECORD:

When you wrote the article on page 37 of July 9 issue, you perhaps did not figure on the probable aftermath. What I mean is, that having landed three of the very best conventions in the world for Richmond, Atlanta and Birmingham, it is now distinctly up to you to land something bigger for Chattanooga. Please let us know what you are going to do about it.

Complementary to that is a letter from E. L. McColgin, secretary of the Chamber of Commerce of Norfolk, Va., as follows:

We have your announcement of July 22 with reference to the American Bankers' Association, American Road Congress and American Iron and Steel Institute, all of which will meet in the South this fall, as well as other matters connected with Southern development and upbuilding. Permit us to congratulate you upon your alertness and the prominent and helpful part you have taken in these and so many other subjects.

"All of which will meet in the South this fall"—that is the idea that was dominant in the efforts which the MANUFACTURERS RECORD has made in connection with the coming meetings of the three great representative bodies mentioned. It is intensely interested, and has been intensely interested for more than thirty years, in the material welfare of the whole South, and has labored unceasingly in all those years for the section's advancement on every line. Its interest in the whole South includes interest in every community of the South, with no discrimination in favor of any particular city, but with equal desire to advantage all cities. Only in impartiality could it approach fulfillment of that desire. Consequently in cases where there is natural and laudable rivalry between two cities or among several cities for the opportunity to show hospitality to such organizations as the American Bankers' Association, the American Road Congress and the American Iron and Steel Institute, the MANUFACTURERS RECORD is barred from advocating the special claims of any one city, but is unrestrained in urging that some Southern city be chosen, realizing, as it does, that such a selection must benefit the whole South. Occasionally an exception may be made. There is not a Southern city equipped to entertain adequately

the bankers of the country which is not an important financial center. Likewise there is not a progressive Southern city which is not directly concerned about the problem of modern highways. In either case it would be beyond our province to urge the claims of one city against those of other cities. We believe, however, that nobody will question the logic of the position of the Birmingham district, because of the development of its iron and steel industries, as the place in the South for the meeting of the American Iron and Steel Institute, or doubt that the gathering there will result ultimately in improvement of the whole iron and steel situation in the South, in which Chattanooga will share just as Richmond, and Baltimore and other centers, perhaps one in Texas yet to be created, will share.

What are we going to do about it for Chattanooga? Before the inquiry from Mr. Kruesi had been received we had suggested, in our issue of July 23, that Chattanooga get busy to induce the members of the American Iron and Steel Institute to stop over in that city on their way to or from Birmingham. May the hope in our suggestion be fulfilled!

#### INFORMATION WANTED BY LEADING MANUFACTURERS.

**T**WO letters that reached the MANUFACTURERS Record in the same mail indicate the extent to which it is used by business men throughout the country in seeking information about machinery and contractors. The Champion Fiber Co. of Canton, N. C., operating probably the largest pulp mill in America, under date of July 27 writes:

We are contemplating installing a 30-inch pipe line, approximately 830 feet long, to be laid at a depth of from 15 to 22 feet below grade. The plans and specifications are on file at this office. We would appreciate it if you would make note of same in your daily bulletins, and also would be pleased if you would advise us of any contractors you might know of who would be able to do this work.

The Scott Brick Process Co., Box 312, Knoxville, Tenn., with Philadelphia office in the North American Building, writes:

Some time ago we asked you to insert a card stating that we were in the market for a traveling crane, and we beg to state that through this medium we purchased a crane from Alfred Box & Co., Philadelphia. We now want the names of manufacturers of hydraulic car pushers or movers, similar to those in use in steel mills, for pushing heavy cars or loads a short distance. We would appreciate any information that you can obtain for us.

Here is one concern that wants a line of large pipe laid at a depth which will require considerable heavy work. And here is another concern which, having secured a traveling crane through the MANUFACTURERS RECORD, now wants the names of manufacturers of hydraulic car pushers. Both of these concerns will be able to get what they want through the publication of this news in the Construction Department of the MANUFACTURERS RECORD. They will secure bids from leading concerns in different parts of the country, enabling them to get the best obtainable information on the subjects about which they inquire.

There are thousands of manufacturing concerns of all kinds throughout the South and Southwest who can secure similar information in the same way by making known their wants through the MANUFACTURERS RECORD, and thousands of manufacturers and contractors, through the study of the columns of the MANUFACTURERS RECORD and the Daily Bulletin of the MANUFACTURERS RECORD, can find information which can be used to their profit.

#### MOTOR TRUCK WIRELESS.

**I**N connection with Baltimore's enterprise and leadership in many lines, reaching from early times to the present moment, it is an interesting fact that here is in operation what is doubtless the first wireless telephone system installed on a motor truck. The Electrical Commission of Baltimore has devised a plan by which a wireless apparatus has been installed in a repair truck, and the truck can be called up at any point in the city where it may happen to be, and through a code of signals adopted messages are freely transmitted between the commission headquarters and those in charge of the truck. All sorts

of possibilities are suggested by this innovation, as the adjustment of wireless service to automobiles would seem to be a matter of easy arrangement. Of course, the area in which it could be operated would necessarily be restricted on account of the impossibility of installing the kind of apparatus required for long-distance communication, but in a case of emergency calls of various kinds it would seem altogether likely that a very considerable adoption of wireless service may be found feasible.

#### "OGDEN WAS MISERLY."

**F**RANK A. OGDEN was found dead the other day in a "small, poorly-furnished room in a lodging-house" at Houston, Tex., with his estate valued at \$10,000,000. Whereupon was built up a dispatch from Houston containing this paragraph:

Ogden was miserly. One of his requirements was that his breakfast should not cost him more than 9 cents, his dinner not to exceed 20 cents and his supper not more than 15 cents. His living expenses were kept down to a maximum of \$25 a month even when traveling. He was 81 years old when he died.

Because he had kept down his living expenses to \$300 a year, and, although possessed of a \$10,000,000 estate, died in a small, poorly-furnished lodging, was sufficient to justify a state of mind, by no means monopolized by the author of the Houston dispatch, in charging that Ogden was miserly. In this day of judgment of men by public clamor, of substitution of the midriff for the mind as a seat of thought and of utter remodeling of human nature by administrative fiat or by legislative enactment, it is quite normal to regard one better materially as worse morally than others, to brand ability to pay taxes as determination to evade taxes, and to stamp ownership of worldly goods as essentially asocial and immoral. A few morons, with more wealth than wit, find pleasure in spending the hard-earned money of their fathers in advancing the "uplift" propaganda founded upon such logic. The great appeal, though, of that logic is to the mass of unfortunates, morally or pathologically, who have been unable to acquire. Their ambition has become mere envy and their energy has degenerated into restlessness. They are the main support and the special prey of statesmen and salaried sociologizers who prescribe various nostrums, all, however, containing the fundamental element, penalizing results of thrift, economy and foresight, the qualities that have ever made for the advancement of the human race.

It is difficult for a man naturally qualified to have only \$300 a year at his own disposal to understand the man who voluntarily limits his expenses to that amount. It is the easiest thing in the world to imagine that a wealthy man has double his real possessions. That fallacy permeates the statesmanship and the administration of the Federal income tax law, with its subtle appeal to the predatory instincts which civilization is supposed to suppress. The average \$300-a-year man, that is, the man actually worth intrinsically \$300—and there are quite a few of such even among individuals possessed of far more—can scarcely avoid holding the volunteer economist as a miser. But—

Ogden left a will, as was discovered a few days after his death. His will provides that his millions are to be devoted to the education of country children, especially children whose opportunities would otherwise be limited. There is no evidence that his fortune was gained by wrong against others. His frugality and self-denial witness to his purpose as a benefactor of his fellows. Properly administered, his estate ought to tend to reduce the number of followers of the modern "uplift." For that to happen, however, it will be necessary to bar from participation in the education of the children under his will the great majority of the "educational statesmen" of this country.

And it is dollars to doughnuts that some way will be discovered in the new democracy and new morality of the day to "restore to the people" a good slice of the millions of Ogden before the children can be touched by them. What right had Ogden to his money, the neo-democrat will ask, even though he stinted himself for many years and gave an example of frugality that may well be imitated by thousands?

# Big Electrical Developments Abroad Projected by Southern Capitalists

**Q**[J. B. Duke and associates, who have put \$30,000,000 into hydro-electric developments and electric railroads in the central South, are planning great investments in hydro-electric and electric steel-making operations in Canada and Europe, and it is thought that this is probably due to greater freedom from adverse legislation. Predictions are made that electric smelting is to make rapid progress.—ED. MANUFACTURERS RECORD.]

[Special Correspondence Manufacturers Record.]

Charlotte, N. C., July 28.

That the utilization of power in large quantities in the electric furnace now being brought to such a high state of efficiency is destined to effect a great revolution in the industrial life of the country is the conviction of Mr. W. S. Lee, vice-president of the Southern Power Co. and allied interests, who has just returned from a trip abroad, where he went to inspect big developments in Norway and Sweden and on the continent proper, and also to confer with Mr. James B. Duke, chairman of the board of directors of the British-American Tobacco Co., and formerly president of the American Tobacco Co., who is the moving spirit of the Southern Power Co.

Coupled with this expression of firm belief as to impending changes comes the statement that, owing to attractive possibilities in certain European countries and the provinces of Canada, the capitalists of the world are directing their attention to this field with reference to water-power development. Among these, Mr. Duke and his associates have already planned to thoroughly investigate investments on a large scale in Canada, and possibly in Norway and Sweden, where conditions are more favorable for the evolution for their comprehensive plans.

This indication of policy is something that will arouse much interest and comment, particularly in financial centers, for Mr. Duke and his associates within the past decade have dumped not less than \$30,000,000 into Piedmont Carolina, where mammoth water-powers have been developed, cotton mills and manufacturing establishments of all kinds have been fostered, a transmission system for the distribution of cheap electric power has been built up second to none in the country, and an interurban trolley system has been initiated that gives promise of wonderful constructive achievement. When it is estimated that there is not less than 2,000,000 of undeveloped hydro-electric power going to waste in this section and 30,000,000 in the United States, all of which, other things being the same, offers exceedingly attractive opportunities for development, some conception of the possibilities along these lines may be approximated.

"Understand me," declared Mr. Lee, "that this does not mean that the interests responsible for the wonderful development of Piedmont Carolina intend to withdraw from this field. Not at all. On the contrary, they will continue to make investments. The effort of my life will be to encourage this, but my success along these lines must, of course, be measured by the encouragement and sympathy which the public accords the different enterprises. There is no idea of abandoning America. They will continue to make investments adequate to obtain the maximum of efficiency from what they already have. The trolley system will be extended and other improvements made in line with an accepted policy that has been the rule of the past. This will require time, of course. Such improvements are not to be effected in a day or a month or a year. But as to mammoth future developments, the attention of these gentlemen has been directed elsewhere, and for the most manifest reasons. There is a great field for development, particularly along the line of electro-chemical and electro-metallurgical processes, that is simply astounding in scope and possibilities ahead. The utilization of power in large quantities in the electric furnace is the keynote secret of the undertaking, and this is the field that is going to be stressed. In order to be able to proceed with this development, much of which is experimental, cheap power is absolutely essential, and it must be available in large units. The electric furnace must be developed and brought to that high state of efficiency which its advocates claim for it. Then, too, the raw material must be abundant and cheap. In the elabora-

tion of these great plans, the men who are investing their millions must have a maximum of freedom from restraint, and, in order to achieve this highly-prized essential, they are looking to foreign lands for a field of their activities."

The fact has been known for some time that Mr. Duke and his associates had been acquiring options on power sites in Canada for the past several years until today they have approximately 700,000 of available horse-power that can be developed for something like \$10 a horse-power, or perhaps less. A corps of highly-skilled engineers are working on the perfection of the electric furnace. Great deposits of iron are also being investigated in Canada with a view to purchase, in order that the material for the production of steel rails may be had. All of these different phases of activity indicate something of the wonderful scope of the great enterprise of those with whom Mr. Lee is associated.

## Ten Years for Chattanooga.

The Chattanooga Manufacturers' Association has rounded out its tenth year of real activity, although it was organized more than a decade ago. The only secretary the organization has ever had completed his tenth year of service, which is and has been so effective that the association recognized the anniversary by celebrating "Bunn Day," the secretary's name being Oscar L. Bunn. The climax of the day was when, between the games of a double-header between the Chattanooga and Birmingham teams of the Southern League, Mr. Bunn was presented a seven-passenger Studebaker-six, 1915 model, automobile, with compliments of the association and without conditions attached to the gift. M. E. Temple, president of the association, made the presentation in a happily-worded speech, crediting Mr. Bunn with a large part of the success which has been attained by the organization under his secretaryship, July 1, 1904, when Mr. Bunn went with the association, it was still in an embryonic condition. He had worked up, with the old Memphis & Charleston Railroad and its ultimate purchaser, the Southern Railway, from freight trucker to general freight agent's chief clerk, and among his abilities was numbered that of traffic expert. For a while Mr. Bunn swung the work of the association alone. At this early date in the association's history the office had one room, 40x30 feet in size. Now it owns its own home on one of the principal business streets of Chattanooga, its four-story building being 50x110 feet in dimensions, containing 12,500 feet of floor space. An elevator serves members and visitors, and an attendant is on hand to show visitors through the 155 exhibits, installed by members and a few non-members, of Chattanooga-made goods. The association paid \$39,000 for the property as it originally stood, issuing bonds for that amount, which are being redeemed at the rate of \$4000 a year from the revenue. Repairs and an addition to the building, representing all told about \$12,000, have been taken care of from current revenue. From about 52 members in 1904, the organization has grown until there are now 140 firm members and 263 individual members, the second figure being larger because firms that are members are allowed to have more than one individual to represent them.

Ten men have served as president of the Manufacturers' Association, only one of them for more than a year. Capt. C. D. Mitchell, president and manager of the Chattanooga Plow Co., fathered the idea of organizing the association, was in fact the organizer, served three terms as president, and is now a life member of the board of governors. He was also primarily responsible for the organization of the Tennessee Manufacturers' Association a few years ago, and was made

its first president. The other presidents of the Chattanooga Manufacturers' Association, in the order of their service, are as follows: Robert Morrison, manager of the Acme Kitchen Furniture Co.; H. F. Temple, president of the Chattanooga Furniture Co.; J. E. Annis, proprietor of the Chattanooga Roofing & Foundry Co.; C. W. Howard, now manager of the industrial bureau of the Chamber of Commerce; Z. W. Wheland, treasurer of the Wheland Company; B. H. Sholar, treasurer and general manager of the Chattanooga Implement & Manufacturing Co.; Z. C. Patten, Jr., officer of the Chattanooga Medicine Co., Bee Dee Stock Medicine Co. and Patten Manufacturing Co.; C. H. Huston, vice-president of the Chattanooga Trust Co. and officer of several manufacturing concerns, and M. E. Temple, the present incumbent, secretary and treasurer of the Chattanooga Furniture Co.

## HOW SALESMEN CAN SERVE THE SOUTH.

By C. G. CRADDOCK, Vice-President Craddock-Terry Company, Lynchburg, Va.

I have read with interest your estimate of the value of the traveling salesman as an educator.

I have been a reader of your valued publication for the past 25 years, and I appreciate the splendid service which you have rendered the South in constantly bringing to the attention of your readers the wonderful resources and possibilities of the South, and I feel satisfied that any traveling salesman who will read the MANUFACTURERS RECORD carefully will not only be able to do the South a great service, but will be able to increase his sales and his earnings by putting himself in a position to be able to talk to the merchants of the South intelligently about the development of the South and its wonderful possibilities, but the trouble is that you can't get the average traveling salesman to take the time to go through the MANUFACTURERS RECORD and pick out the articles which interest him and will interest his customers and read them.

The traveling salesman of today is, as a rule, a much more intelligent man and more of a thinker than the traveling man of 25 years ago. Twenty-five years ago traveling salesmen sold goods almost entirely on personality, and if the traveling salesman was a man with a pleasing personality, a good talker and a good mixer he was invariably a success, while today those of us who have to employ traveling salesmen in the distribution of our merchandise look for men of sturdy character, men of high order of intelligence, men who think, men who know their business, and this type of man could largely increase his efficiency as a traveling salesman if he would take the time to read and digest the matter which you publish relative to the progress and future of the South, but I fear that I will never be able to get my traveling men to take advantage of this opportunity of increasing their efficiency and their earnings, unless you could see your way clear to publish monthly, semi-monthly or quarterly a booklet similar to your Annual Blue Book of Southern Progress, which I have frequently purchased from you in sufficient quantities to distribute among our salesmen.

I believe if you would get out a little booklet or pamphlet of this kind monthly, filled with items taken from the MANUFACTURERS RECORD which would most likely interest the traveling salesmen, such a publication would be of great value to the traveling salesmen who cover the South, and I would be very glad to subscribe to 50 copies to start with, as I believe that by sending a copy of such a publication to each of our 50 salesmen each month it would increase their value to this organization very materially.

No section of this country needs the gospel of optimism more than the South. While the South is making wonderful progress, and while I believe that the future of the South is brighter than that of any other section of the civilized globe, I believe that the Southern people are more pessimistic than the people of any other section of this country. The Western people are and always have been especially optimistic, and nothing has done more to build up the West than its optimism.

I have visited towns and cities in the West located in the desert, with not one-tenth of the advantages which we enjoy in Lynchburg, and yet I would find every man, woman and child in this Western community a booster. I would find them emphasizing the few advantages which they actually possessed, and absolutely ignoring their

disadvantages, while in the South you will always find pessimists anxious to tell you of the disadvantages and shortcomings of the community in which they live, and as I do not believe that our Southern people are pessimists by nature, I am constrained to believe that the pessimism of the South is due in a large measure to the condition in which this section of country was left after the Civil War; therefore, I believe that there is nothing we need so much as optimism, and I don't believe that any single force or medium has done more to arouse the people of the South to its wonderful possibilities than your valued publication, and for this reason I would like very much indeed to see the information which is published in the MANUFACTURERS RECORD edited and published in a condensed form for the use of traveling salesmen and other men who feel that they haven't time to read the MANUFACTURERS RECORD as carefully as it should be read.

### New Orleans as a Port.

In an artistic pamphlet full of practical information, and with many handsome illustrations, the Board of Commissioners of the Port of New Orleans has embodied its seventeenth report. The facilities of the port, as shown in the report, include 22 wharves, having an aggregate length of 27,000 feet and an aggregate area of 3,777,166 feet, costing \$2,179,237; sheds with an aggregate length of 19,573 feet and an aggregate area of 2,558,906 square feet, costing \$1,483,488, and paved roadways of an aggregate length of 20,000 feet, with 2600 more feet under construction. Last year 2124 seagoing vessels of an aggregate tonnage of 6,080,071 arrived at the port, 1636 steamboats, 343 miscellaneous craft and 2000 luggers and gasoline launches engaged in the oyster, fish and vegetable trade.

### The Cotton Movement.

In his report for July 24 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight in 327 days of the present season was 14,403,133 bales, an increase over the same period last year of 704,107 bales. The exports were 8,836,248 bales, an increase of 411,814 bales. The takings were, by Northern spinners, 2,521,843 bales, a decrease of 45,042 bales; by Southern spinners, 2,969,288 bales, an increase of 205,288 bales. If the Southern mills continue to take cotton until the close of the season, on August 31, at the present rate, decreasing slightly each week, the total takings by Southern mills for the year will amount to 3,078,980 bales.

### Cotton Goods and Metal Screws.

Panna Lall Dutt & Co., No. 45 Sitaram Ghosh street, Calcutta, India, write to the MANUFACTURERS RECORD essentially as follows:

"We want to correspond with American manufacturers of brass and iron screws, with a view to representing them for the purpose of selling their screws throughout India. Our Nettlefold screws have been well known for nearly a century, and dealers confidently import these direct. We also want to represent manufacturers of gray cotton drills, arranging for a three-year contract. It will interest us to know such particulars as total output of mill; prices; commission to agents; shipments; monthly quantity, etc."

### Inez Manufacturing Co.

The Inez Manufacturing Co., authorized capital \$2,500,000, has been chartered with Geo. R. Salisbury, care The Gables, Lake Winola, Pa., as president to build a cotton and linen cloth mill at Sand Springs, Okla. Mr. Salisbury wires the MANUFACTURERS RECORD: "Buildings to be Fenestra structural steel, costing \$250,000; 100,000 spindles, 2500 looms, 320 cards, etc." Reports state that plans contemplate the following structures: Two story, 450x140 feet; four story, 500x130 feet; three story, 600x250 feet; one story, 300x150 feet.

## A Banker's Views on Bankers' Obligations to Their Community

**J**[Jacob S. Collins, in assuming the presidency of two leading banks in Savannah, issued an open letter to the stockholders and the publick which contains so many interesting statements about banks and bankers and their relation to their community and their customers, and about the progress of farmers as rivaling the progress of cities, that the following extracts are published as of interest to all readers. This open letter was published as a full-page advertisement in one of the local papers.—ED. MANUFACTURERS RECORD.]

In assuming the position of president of the National Bank of Savannah, Ga., and the Oglethorpe Savings & Trust Co. of Savannah, Ga., I do so with a full knowledge of the responsibility which the position carries with it. \* \* \* The particular incentive moving me to accept a position of such great responsibility is that I feel with my knowledge of the wants of the people of Savannah and Savannah's territory that I can be of some service in the upbuilding of Savannah and the surrounding country.

The legislation which has recently been brought prominently before the people, such as the regional bank law and the proposed anti-trust law, is the result of the dissatisfaction on the part of the people generally with the handling of the finances of the country, and many of the banks furnished the ammunition to the political agitators, which is being used by the politicians to strengthen their fences politically, and not with that discretion which would appear to be to the best interests of the business of this great American country.

Many of the large banks in the East and West got away from the business of banking and became more like brokers and dealers than bankers; hence when funds have been needed for legitimate businesses, stock and bond deals afforded a greater profit, and the legitimate business people suffered. The true principle of banking is not altogether based upon dividends for stockholders and large salaries for officers, but that banks will furnish to legitimate enterprises and legitimate businesses financial assistance. Dividends for the stockholders are of importance, but without the upbuilding of the community in which banks are operating dividends cannot be made continuously. Without the upbuilding of the surrounding country to any city, the city must of necessity lose its population, and its business must decrease rather than increase. The old method of the average banker who sits at his desk, and without investigating a proposition which may be presented says "yes" or "no" will no longer suffice. Banking must be done on progressive and aggressive principles.

The first thought which should present itself to the banker when application is made to do business with his bank is, will the applicant be able to succeed in the business which he proposes to undertake, or which he is conducting? Is the moral risk good, and will the assistance of the bank result, not only in serving the client, but in the upbuilding of the community?

When financial stringency occurs the every effort of the banker should be, not to attempt to force collections and thus bring ruin upon the community in which he operates, but struggle along with his clientele, and where worthy give them additional assistance so as to tide them over the hard times. If unsuccessful and unworthy, then it is best to liquidate the account.

It has been my opinion for years that the people in the South have been unaware of their own ability, and have relied too much upon the East and the West to handle important propositions which rightfully belong at home. A well organized and properly officered bank can always secure sufficient financial assistance to finance the community in which it is operating, and the large profits which have gone to trust companies in the East and West could have been made by bankers in the South. When it is considered that only 10 per cent. of the business of the country is done with actual money, it reduces the whole proposition to a matter of faith, not only in the South, but everywhere.

Our local manufacturing industries have been to some extent failures, largely due to mismanagement. Our cotton factory, which was built by Savannah people and operated by Savannah people, was not a success until taken over by Eastern people, who have for many years operated night and day profitably. This condition being largely due to the fact that local enterprises have been officered by people with a "pull" rather than

people with merit. The same principle applies to banking or any other business proposition when the management is not in the hands of competent people regardless of their "pull."

Not many years ago Savannah received and handled more grain than Macon, Augusta and Columbus, Ga., together. Whereas, today, Waycross probably handles more grain than Savannah. This is largely due to the fact that people who pay for what they buy will buy in the cheapest market. The old theory of making from \$50 to \$100 per car on grain and selling on time has been exploded. The man who knows his business buys his grain on a brokerage of \$3 to \$5 per car, and pays cash therefor.

Savannah is notoriously known as an old, conservative city, and I sometimes feel that it has passed the state of conservatism with a great many, and has taken on the form of the hookworm. It is a well-known fact to the average business man of Savannah that it is easier to make a dollar in Savannah than 25 cents in the average interior city; hence the ease in making money has a tendency to make our people too self-satisfied, and the banker does not differ from the average citizen. He also becomes more or less easy. The error is in the fact that this state of affairs cannot continue always. The farmers in Savannah's territory have progressed very much more than the people in Savannah. A few years ago a farmer who could produce 40 bushels of corn to the acre was considered a wonder. The farmer who produced a bale of cotton to three acres was a good farmer. Whereas, today, the great majority of farmers make from 50 to 100 bushels of corn to the acre and a bale of cotton to the acre. If Savannah's progress had been in keeping with that of the farmer, we would have a population of 500,000 people.

Another policy which has been acted upon by bankers generally is that they could finance their people at home and take a little care of the people who produce the food on which we live and the fiber which clothes us. If a farmer or a business man anywhere in Savannah's territory needs financial assistance, they should not be required to go to Macon, Atlanta or Jacksonville, because, if they are forced to go to these cities to get financial assistance, that carries with it the trade which properly belongs to Savannah. If the farmer or merchant has sufficient security to offer, I can see no reason why he should not be helped financially, and thus build up the surrounding country upon which Savannah must depend. Hence the great necessity for large financial institutions.

Another most important thought, and I must say differing somewhat from most bankers, is the importance of giving encouragement to the owners of real estate. Real estate is the basis of all wealth, and while it is true that National banks have heretofore been prohibited from making loans on real estate, the regional bank law has wisely provided for National banks to lend on improved farm lands. This is a step in the right direction. The unfavorable conditions and the fear on the part of the bankers in handling real estate has been due to the fact that loans have heretofore been made on a "wild-cat" basis, but just why improved real estate with an income sufficient to take care of fixed charges is not good collateral is something that I have been unable to understand. I know that the argument is frequently made that loans upon real estate are not liquid. This argument would hold good on Wall Street, but it does not hold good in Savannah, because our people have but few securities to offer which can in any sense be considered liquid. Endorsed paper is sought after, and is all right as long as it is paid, but when the maker fails to pay, the endorser is in no great hurry to make good his endorsement; hence endorsed paper cannot be considered liquid, except in a few cases. This brings us back to what has already been said; it is largely a matter of faith and the moral risk.

## Zinc Mining in North Arkansas

By TOM SHIRAS of Mountain Home.

Zinc mining in the North Arkansas field in the Ozark mountains has been more active this year than at any other time since active mining started in 1898. The production of the district for the first six months this year was approximately 2000 tons. This consisted of chunk ore in the shape of carbonate and silicate of zinc, and milled concentrates of both of these ores and sulphide (Jack).

Approximately 1100 tons of this ore were mined from shallow ground in the Zinc (Ark.) camp, in Boone county,

and in the Rush (Ark.) camp, on Rush Creek, in the Yellville district. Approximately 400 tons of this ore were cleaned on hand jigs, the balance being shipped without cleaning or milling. Up until July 1, the Morning Star mine was the only active milling property in the field. It is located in the Rush camp. Its output for the first six months was 900 tons, most of which was concentrates.

The Morning Star mine was the first zinc mine discovered in the North Arkansas field, and has passed through all the vicissitudes of good and bad management. In the early history of the field it was once offered for a can of oysters, and the offer was refused. The last time it changed hands it brought \$100,000. It is owned by Capt. Geo. Chase of Fayetteville, Ark., and associates, and is being operated by John Conness Shepherd of Washington, D. C., who formerly operated in Chihuahua, Mexico.

The mining operations at the Morning Star are carried on in a gigantic open cut, faced around the mountain, 30 feet high, with various laterals and in some instances tunnels. The mine is equipped with a 150-ton concentrating plant, wet method, of the Southwest Missouri type, driven by a 60-horse-power Corliss engine. The rock drilling is done with Ingersoll-Rand drills, driven with an Ingersoll-Rand air compressor. The favorite type of this drill at this mine is the small, one-man drill, which can be easily handled, and they are using it with great success. The ore is carried from the mine in the mountain-side to the mill over a trestle tram. The Morning Star is a typical mine of the North Arkansas field, and aptly illustrates the process of mining in that section, and the difficulties to be overcome, and the good points in favor of the field.

The completion of a new mill in the Zinc (Ark.) camp, by the Jack Pot Mining Co., on the Jack pot mine, marks an era of larger production for that camp. The Jack Pot company is composed of Earl McClure, James Gailbraith and George Stratton, well-known operators of the Southwest Missouri district, and L. L. Brown, a pioneer of the Arkansas field. The mill just completed, and which is making its first turn-in, is a 150-ton plant, wet process, Southwest Missouri type. It is driven with a 60-horse-power Corliss engine. Ingersoll-Rand air

drills are used in the ground, driven by an Ingersoll-Rand compressor. The ore deposit extends 300 feet up a gulch, with ore in the bottom, and eight feet faces on the sides and in the face. So far the development work has shown the ore body to be 50 feet wide, and it has not been cut yet. There are two tunnels, one in the left face, and one directly into the mountain at the head of the gulch. Both of these are back about 100 feet, and have failed to cut the ore body, and the mill starts to work on a proven body of ore of quite an area. This

same company has taken a lease on the Coker Hollow mine in the same camp, from the Sugar Orchard Mining Co. of Zinc, and are starting active operations there, having made their first turn-in in July. The Coker Hollow is equipped with a 100-ton concentrating mill, wet process, of the Southwest Missouri type. The ore body is worked from a shaft at the 35, 50 and 90-foot levels.

Work of cleaning up the ground and machinery preparatory to active mining is under way now at the Iola mine, in Marion county, near Dodd City. This mine was lately leased to Geo. Angel, a well-known mining man of New York city, by Anna K. Gilbert of Washington, D. C., who owns the fee in the property. Clay Gregory, a well-known operator of the Joplin district, will be associated with Mr. Angel in his operations. The Iola is equipped with a 100-ton concentrating mill, wet process, of the Southwest Missouri type,

and the mine is capable of making an excellent turn-in under proper management. The ore is mined by a tunnel, which is back 800 feet into a mountain. The ore body has a 20-foot breast, varying in length from 10 to 16 feet. The ore assays 67 per cent. metallic zinc, and is the highest grade ore mined in the North Arkansas field.

The last six months' operations of this year promise to double the output of the first six months, and undoubtedly will, unless the market declines to a point that operations will not be profitable.

### The Birmingham Iron Market.

[Special Correspondence Manufacturers Record.]

Birmingham, Ala., July 25.

The pig-iron market for the past week has shown little change from the week before, although the tone of the market is stronger, but sales have been no larger, probably not over 25,000 tons having been sold by the different interests in the district. Prices have shown no change, the prices being \$10.25 for third quarter and \$10.50 for fourth quarter delivery. The movement of iron has been large, the shipments far exceeding the

output, with plenty of cars for transportation, and no prospect of any shortage during the coming months of the summer. There is a great deal of iron on the yards, and when the buying does commence there will be an abundance of the product to fill all orders in any grades of iron demanded by consumers. All furnace men report many inquiries, but buying on the order of just enough to supply present demands. All are optimistic that the market is to become more active, and some express the opinion that there will be much iron moving in August, indicating a heavy buying during the early fall.

The old material market shows no improvement, although sales are made each week, but not in the heavy quantities that prevailed the latter part of 1913. There is a large amount of old iron on the yards, but none of the dealers will say when they look for a stiffening market or a demand greater than is at present.

Cast-iron pipe has been more active during the past week, it having been stated that the United States Cast Iron Pipe & Foundry Co. has sold 5000 tons of 30-inch and 36-inch pipe for Panama, and the plant at Bessemer is sending forward the pipe as fast as it can be made at the plants. The order is one of the largest of the year, and will add to the strength of the pipe industry. Other pipe industries are active, soil pipe having a good run of business, many sales, but no change in prices, so far as announced. Practically all of the plants are at work on full time, and will continue so the rest of the summer.

As reported a short time since, the coal mines of the Southern Steel & Iron Co. at Virginia City have been placed on full time, and almost the entire output of the mines is used in making coke, the 300 beehive coke ovens of the company burning coke that is used in the company's plants at Gadsden. There is some increase in the output of coal in the district, and this quantity will be increased as other companies get back to work, although some of the mines will probably remain idle for the next few months.

One of the big events of the week was the visit of Mayor Preston of Baltimore and a large delegation that came to invite the people of Alabama to visit Baltimore in September to assist in the celebration of the centennial of the writing of the "Star-Spangled Banner."

A fertilizer factory to manufacture lime fertilizer will be established at Morange Junction, near Gadsden, Judge J. S. Morange being at the head of the movement. The plant will be operated by water-power. Machinery of the North Alabama Mining Co. in North Gadsden is being overhauled, and it is stated that the mines will soon be placed in operation.

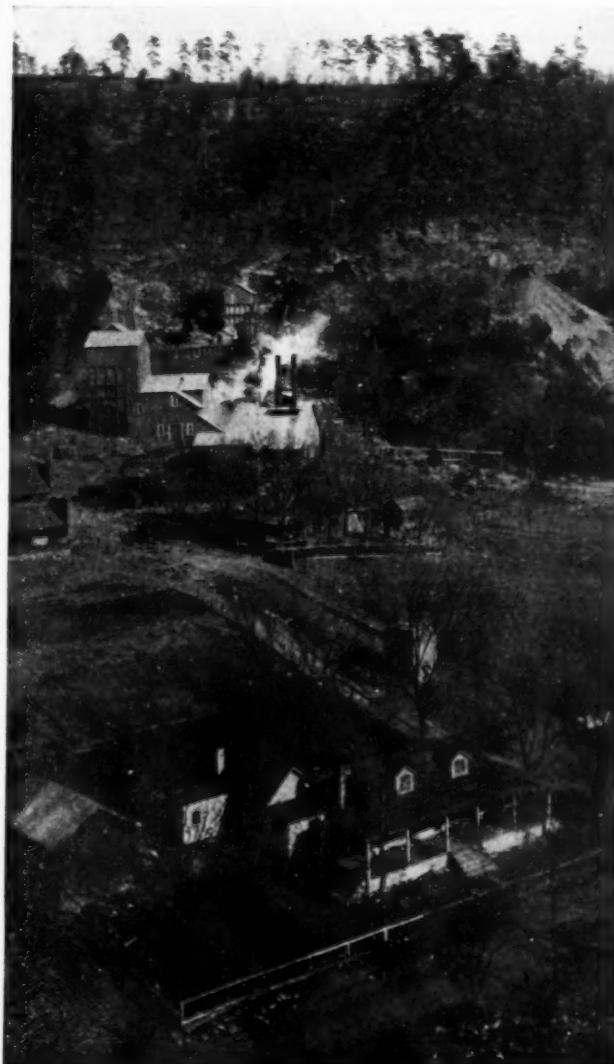
Early in the week the opening of the 121 miles of double-track railroad between Athens, Ala., and Nashville was celebrated, thousands attending the opening.

### Building in Nashville and Texarkana.

Figures relating to building operations in Nashville, Tenn., and Texarkana, Ark.-Tex., for the six months ended June 30 show that in the former city a total of 442 permits was issued, representing a cost of construction of \$1,189,492. The distribution by months was as follows: January, 50 permits, \$102,269; February, 42 permits, \$79,885; March, 79 permits, \$229,980; April, 101 permits, \$258,505; May, 78 permits, \$203,402; June, 92 permits, \$315,449. Texarkana has no building inspector or permit system, but data gathered by the Board of Trade of that city covering the period from January 1 to July 14, inclusive, indicates that the cost of construction of buildings completed since January 1 will aggregate \$171,000, of which \$87,000 was for factory and store buildings, \$72,000 for residences and \$12,000 for a clubhouse. The value of buildings under construction is estimated at \$444,000, distributed as follows: Residences, \$241,000; store buildings and warehouses, \$135,000; churches and schools, \$68,000. In addition, it is estimated that 100 or more small cottages have been erected, ranging in cost from \$500 to \$1000 each.

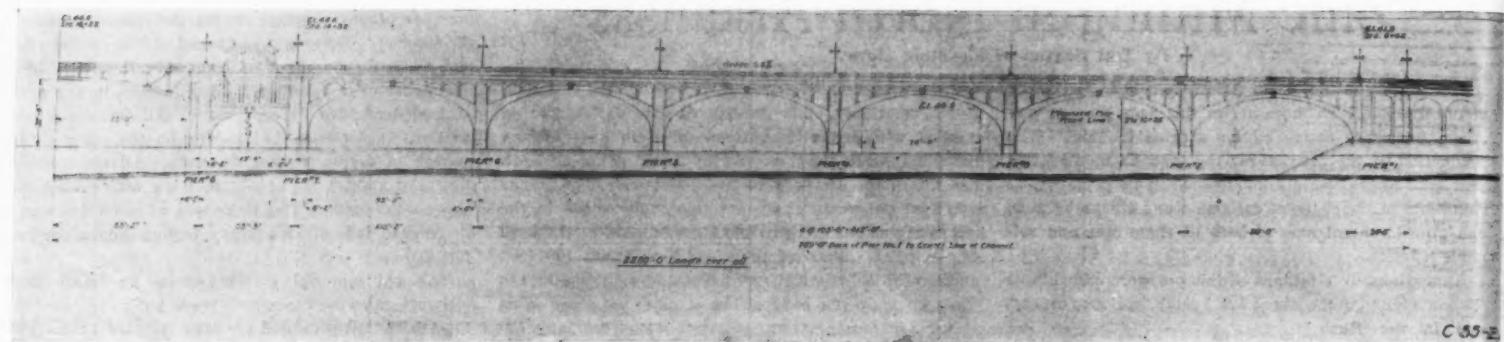
### Motor Buses in Birmingham.

A motor bus passenger line has begun operation in Birmingham, Ala., the promoter of the enterprise, according to a report from there, being A. Croom Beatty of the Birmingham Realty Co. There are four vehicles, which are now run on from 10 to 12 minutes' headway.



THE MORNING STAR PLANT.

A typical zinc mine in the Ozark Mountains of Arkansas.



PLAN OF SECTION OF TWO REINFORCED CONCRETE BRIDGES TO COST \$1,600,000 TO BE CONSTRUCTED ACROSS THE MIDDLE BRANCH OF THE PATAPSCO RIVER AT BALTIMORE.

### IMPORTANT BRIDGE CONSTRUCTION.

#### To Expend \$1,600,000 for Constructing Two Bridges and a Highway at Baltimore.

Bridge and road construction of considerable interest and of importance to contractors is about to be undertaken by the Maryland State Roads Commission, with offices at Baltimore, the amount of \$1,600,000 being available for the entire work. Plans and specifications have been completed for the first portion of this work, and proposals for construction are invited, to be opened on August 13. These proposals call for constructing a reinforced concrete bridge, about 2280 feet long, from Hanover street at Baltimore across the Middle Branch of the Patapsco River to Baltimore county, the approximate expenditure being \$800,000. The plan of the main portion of this bridge is seen in the accompanying illustration. It is expected that the State Roads Commission will soon invite proposals for the construction of the highway, from the end of first portion of the Hanover street bridge, across Baltimore county to the Patapsco River, where the second bridge will be constructed to the Anne Arundel county shore, \$800,000 being the approximate amount available for this roadway and bridge.

Invitations for proposals on the construction of the bridge across the main channel of the Patapsco River will be given consideration after the first bridge and roadway have considerably progressed. The entire distance from Hanover street to Anne Arundel county will be about 6000 feet. The construction of the bridge on which bids are now being asked is to be speedily arranged for, with the expectation of having it completed by 1916. The bridge roadway will be 42 feet above the river, as a result of the requirements of the War Department, which specifies a 26-foot arch with a 70-foot clearance. The spans of the arches will be 95 feet between abutments, this being equivalent to 103 feet from center to center of abutments. Twelve arches will be of these dimensions, and there will be two of lesser dimensions to support the ends of the bascule draw, the latter to be 100 feet wide in the clear. The draw is to be operated by electricity, each of the two lifts to have separate electric equipment. The river channel will be dredged through the draw, but no estimates of this work have been considered. The height of the bridge will enable the largest tugboats and barges in Baltimore harbor to pass under the bridge side by side without lifting the draw. It is contemplated that the bridge across the Patapsco River proper, between the Baltimore and Anne Arundel shores, shall be of the girder type and have 20 channel openings, each 25 feet from center to center of pier, but the final details of this construction have not been determined. There will be considerable street paving required at the Hanover street end in connection with the construction of the first bridge.

#### El Paso Sets the Pace.

No town or city desiring to issue a pamphlet setting forth its advantages ought to undertake to do so until a copy of a book entitled, "El Paso, What It Is and Why," issued by the Chamber of Commerce of that city, has been seen and studied. This is a publication of very rare and unusual excellence. No one can even casually glance over it without having a desire to visit El Paso and see for himself the reality of the things here outlined in picture and in word. Splendid office

buildings, beautiful homes, magnificent streets, great industrial enterprises, are all so strikingly illustrated as to appeal immediately to the imagination. But El Paso does not have to depend upon appealing to the imagination, for the facts presented appeal mightily to the judgment of the reader. The very fact that this publication, as beautiful as it is, artistically designed and splendidly printed, is a home product is in itself evidence of the degree of excellence to which El Paso has attained in many lines. A more perfect piece of printing has rarely, if ever, come into the office of the MANUFACTURERS RECORD. The Chamber of Commerce of that thriving Texas city is to be congratulated upon this piece of work.

### IRON AND STEEL INSTITUTE.

#### More Letters Showing Members' Interest in the Fall Meeting at Birmingham.

Letters additional to those published in our issues of July 16 and 23 from members of the American Iron and Steel Institute telling of their interest in the meeting of the Institute at Birmingham, Ala., in the fall, follow:

##### B. F. Bourne.

B. F. Bourne, president, the Bourne-Fuller Company, iron, steel, pig-iron, coke, Cleveland, O.:

"While I cannot say at this writing whether I would be able to attend, yet I would like very much to do so in the event that the meeting is held there. It has been something over twenty years since I have been in Birmingham, since which the development there has been enormous, and I know that I should find a great deal of interest, as well as pleasure, in seeing the Birmingham of today."

##### H. S. Chamberlain.

H. S. Chamberlain, president, Roane Iron Co., Chattanooga, Tenn.:

"I shall most certainly attend the meeting of the American Iron and Steel Institute at Birmingham this October. This meeting will afford the members a fine opportunity to see some of the things that have been done and some of the things that have not been done in the South since the war, and as one of the old guards in the iron industry of this section, I extend a most hearty invitation to the Institute. As there is much to be seen here of interest, the Chamber of Commerce and the Manufacturers' Association of Chattanooga also extend a most cordial invitation for the members to stop over a day here, either going or coming, and I am sure they will be repaid for the delay."

##### H. T. Hecht.

H. T. Hecht, Danville, Pa.:

"I am interested in a general way in gaining more information regarding the resources and development of the South, and will endeavor to arrange to attend the meeting referred to if at all possible. The Institute meetings are not only interesting, but are educational as well, and personally I think every member should arrange to attend the next meeting, as members in the Eastern and Northeastern section are, as a rule, very slightly acquainted with the South, as we seldom come in close contact with that section as a general thing."

##### E. W. Harrison.

E. W. Harrison, vice-president, Superior Steel Co., Philadelphia, Pa.:

"If it is convenient for me to get away, I certainly

shall be pleased to attend the October meeting of the American Iron and Steel Institute, to be held in Birmingham, Ala. I am not personally familiar with the great mineral resources of this section, but realize that great strides have been made in this particular section of the South during the past few years, and it seems to me that a visit to Birmingham will be very instructive to any member of the American Iron and Steel Institute who can arrange to attend that meeting."

##### W. A. McGonagle.

W. A. McGonagle, president, Duluth, Missabe & Northern Railway Co., Duluth, Minn.:

"I intend to be present at the October meeting of the American Iron and Steel Institute, to be held in Birmingham, Ala., and am anticipating not only a delightful visit, but also valuable information as to the mineral resources and manufacturing interests of the South."

##### C. N. Markle.

C. N. Markle, president, Texas Carnegie Steel Association, Galveston, Tex.:

"In reference to the October meeting of the American Iron and Steel Institute, to be held at Birmingham, I am pleased to advise you that I contemplate attending the meeting. Your remarks about the development of the South are interesting. I believe the South is going to show wonderful improvement during the next few years. I know that in this great State of Texas many improvements are being planned, and we look for prosperous times down here."

##### W. S. Pilling.

W. S. Pilling, Pilling & Crane, iron, steel, ores, coal, coke, Philadelphia, Pa.:

"I cannot at this time make any decision as to attendance at the meeting. I should, of course, be interested in seeing Birmingham, but so far as that section is concerned, we are fully satisfied that Birmingham has already developed sufficiently. What the trade now needs is less development and more business."

##### Herbert C. Ryding.

Herbert C. Ryding, assistant to vice-president, Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.:

"As I am a resident of Birmingham, and connected with the Tennessee Coal, Iron & Railroad Co., I expect to attend the October meeting of the American Iron and Steel Institute to be held here. I feel that the progress made in this district during the last eight or ten years will be sufficient inducement to bring a very large proportion of the membership of the Institute to this meeting, and will be particularly interesting to them on account of the fact that they can begin with the production of the ore and follow it through to the finished steel. This I do not believe can be done in any other part of the country, and the proximity in which the ore lies to the coal and limestone are also features of great interest."

##### George S. Whyte.

George S. Whyte, Macomber & Whyte Rope Co., Kenosha, Wis.:

"I will, if possible, attend the October meeting of the Iron and Steel Institute in Birmingham. I am looking forward with a great deal of pleasure to this meeting. Birmingham has been making history in the steel business and allied industries, and it typifies the spirit of the New South. I am sure that the October meeting of the Institute will be a huge success from every standpoint, and know that each and every member who attends will receive great benefit therefrom."

## Nearly \$10,000,000 Improvements At San Antonio, Tex.

By JOHN B. CARRINGTON, Secretary Chamber of Commerce.

Comprehensive plans for public improvements are being worked out in San Antonio, Tex., on a broader scale than has ever before been attempted in any Southwestern city. From a series of bond issues—city, county and school—and including special assessments, a grand total of \$9,361,000 is available and will be spent for these improvements.

The original bond issue for the city was \$3,450,000. This bond issue carried with a special election which decided that in all of the projects for street paving and street widening the city should pay one-third and the abutting property on each side of the street should pay one-third. Under this arrangement, \$6,586,000 is the total sum available for the paving of streets and the opening and widening of streets, and the building of bridges. It is estimated that between \$4,000,000 and \$5,000,000 of this money is to be spent for street paving.

At present the work is being pushed with great vigor. At a meeting of the City Council held 10 days ago 50 contracts, amounting to \$777,741, were let. The schedule of this big public improvement for civic betterment is as follows:

For street improvement (bridges, paving, opening and widening).....	\$6,586,000
For additional sewers.....	1,100,000
For county road improvement.....	750,000
For additional public school buildings.....	300,000
For city and county hospital.....	250,000
For additional fire and police stations.....	175,000
For improvements to courthouse.....	75,000
For county poorhouse.....	50,000
For garbage incinerator.....	50,000
For sidewalks on city property.....	25,000
	\$9,361,000

It is stated that no city of 100,000 population has undertaken at one time public improvements on such a big scale, and particular interest is lent to some of these projects by the fact that the ancient Spanish streets which were narrow and crooked are being straightened and made broad and modern thoroughfares.

The MANUFACTURERS RECORD of June 1 carried a story showing the details of the most important of these streets—Commerce street, which is the banking and wholesale street. About six blocks of the street were moved back 16 feet, and one five-story solid concrete building was picked up bodily and set back. This work is now nearing completion, and by September 15 it is expected that the street will be paved and in perfect condition.

Before this street paving begins the public service corporations, including the street-car company, gas and electric company, telephone company and the like are largely rebuilding their service connections, and have prepared for a city of 250,000, which is their estimate of what San Antonio will be before 10 years elapses. The present population, according to the recent estimate of the United States Census Bureau, is 115,063. The expenditure by these public service corporations and other building projects, more or less definitely determined, aggregate an estimated total for San Antonio of about \$11,000,000.

Naturally, the net result of all this activity is a great stimulus to business, coupled as it is with the benefits that abundant rains during the winter and spring have brought about, giving the most favorable crop conditions known in the past 15 years in this section.

In the matter of paving, San Antonio has selected a number of different materials to meet the different conditions of the city traffic. On the heavy traffic streets in the business district of the city creosoted wood blocks are used extensively. Granitoid, bitulithic and Uvalde rock asphalt are also used on certain streets. Macadam, with a topping of tarvia, is employed on some of the residence streets and boulevards.

Extensive plans of beautification are being worked out in the residence districts. The city is fortunate in having a number of automobile loops, anywhere from 16 to 75 miles in length, and most of these loop roads are excellent macadam. It is proposed to connect up these loop roads by means of boulevards. The principal one of these boulevards is 100 feet wide, and will be parked in the center for 30 feet, embracing the street-car

track, a 24-foot drive on each side and 12-foot sidewalks, with shade trees.

In connection with this civic improvement a movement is on foot for renaming many of the streets, since some 28 duplications exist, and renumbering the city. It is planned to reserve the old Spanish names, which give a distinctive foreign flavor to San Antonio, and also to utilize names of Texas heroes and patriots and thus keep alive the traditions of this historical city.

Plans are also being made for a comprehensive extension of the sewer system and for the development of a storm-water drainage system. The business part of San Antonio lies in a valley, the residence section on surrounding hills, and plans are being made to take care of the water that runs down from these hills in times of heavy rains.

A combination has been arranged between the city

of San Antonio and the county of Bexar for a joint hospital to be conducted by the county officials, but located in the city. For this purpose \$250,000 is available, and one of the finest structures of this kind will be built within the next year.

Coincident with the city work, the county of Bexar is spending \$1,000,000 in improvement and building of bridges. This county has about 185 miles of good roads, built by bond issues of 10 years ago. These roads are being retopped and brought to a high state of perfection, and are being extended in every direction to the county line. Many of these roads are connected with the system of national highways now being extensively planned, of which a system of automobile roads being developed throughout the State of Texas are parts.

The loop roads out of San Antonio are a special feature of its winter life, and are of unfailing delight to the tourist. One of these loops takes the visitor past the historic Missions, of which there are four below the city, relics of Spanish architecture, and always interesting; another loop goes into the mountain country to the north, and is known as the Scenic Loop, being 47 miles in length and taking the traveler through a country of rare and picturesque beauty.

## Drawbacks Upon Inland Water Traffic

By JOHN H. BERNHARD of New Orleans.

Referring to your issue of July 16, wherein, on page 54, an article appeared which purported to explain decline of river traffic, in that article the writer, who is unknown to me, takes exception to my statement calling the decline of inland water transportation "suicide rather than murder."

I might be able to have him agree with me if I add to my original statement the fact that perhaps the railroads "refused to cut the rope of the suicide," and maybe even in some instances "furnished such rope" for its convenient hanging, but I am thoroughly convinced that in very few instances (which might be classified as exceptions that prove the rule) the railroads purposely and after deliberate consideration of their board of directors set about in killing water transportation.

No doubt there are such instances, and I can furnish several myself, but the point I am trying to drive home is that all of this is merely on the surface, and in the underlying main current the railroads have very little to say and to do. The circumstances (as explained in my former article) what caused the death of the inland water transportation are, to repeat same, lack of terminals, lack of co-operation, lack of modern appliances or crafts, lack of proper or prohibitive high insurance, the complete lack of foresight of those responsible for water transportation, the inadequate and often harmful laws regulating inland waterways, the total lack of interest of the public pertaining to the water transportation which permitted such laws, unique in United States, forcing water transportation companies to employ licensed persons, so-called pilots, and then permitting these pilots to form unions and through this give all of the discrimination and obstructions necessary to finish the already weak water transportation companies, and one hundred and one other points, which, all combined, just like the opposition of the railroads, point to the real cause and with its tremendous fast-growing interior country, climax of which has now been reached and which climax cannot be surpassed until the water routes of the United States are properly used, unless at an added penalty of increased cost of living.

The special instances the writer of July 16 cites are all true, no doubt, but I do believe that they do not give the exact pictures of the cause of the decline of inland navigation. There are lots of other matters, and of even greater importance than those referred to in that article of July 16, and even they are merely scratching the surface.

What do you think of the fact that there are several towns, five and ten miles away from the Mississippi River, that do ship, with a saving to them, their freight from other cities through their town, past their doors to the river and then haul it from the river in wagons to their towns, because in this manner they take advantage of the river rates, and this is all done with the sanction and knowledge of the Interstate Commerce Commission, thus permitting the railroads to "rob Peter

to pay Paul," or, if you like to, allow the interior country to pay part of the freight rate of the river towns so as to make lower rates to these river towns and more successfully compete against water transportation.

Why should freight be moved to any community by rail for less than cost? Why should not any freight moved by rail be based upon the principle of cost, plus fixed profit? Why is it still possible that if a European orders his flour from St. Paul he gets it moved cheaper through the United States than any resident of the United States? In other words, flour shipped from St. Paul to New Orleans is moved for less per ton if it is shipped from New Orleans to Europe than if consumed in New Orleans.

I beg to repeat again that the decline of river transportation is due to the fact of the fast growth of the interior of the United States, and its revival retarded to a great extent by the mistaken conception of the Interstate Commerce Commission, who believes its task to be that of a "botch tailor" instead of "creators of style."

In other words, they should stop botching the suit of Uncle Sam and should cut him a new modern, well fitting and becoming suit of rates.

Instead of attempting to combine very ridiculous methods of freight rates, let them be herculean enough to clean out the "Augus" stable and get up a new set of freight rates just to everybody, which give better chances of development of this United States. I, for one, cannot see, with the knowledge I have been able to collect, that there has ever been a concentrated opposition of the railroads against water transportation.

### To Drain 400 Square Miles.

About 400 square miles of land, comprising parts of Mississippi, Craighead and Poinsett counties, Arkansas, are to be drained as Keystone Drainage District, recently organized. Willie E. Ayres, Memphis, Tenn., has been engaged to report upon a feasible plan for reclaiming the territory mentioned and for a plan to handle the waters from Little River Drainage District of Southwestern Missouri, which enter the Keystone District from the north.

### Wheeling Steel & Iron Co.

The Wheeling Steel & Iron Co. and the Wheeling Sheet & Tin Plate Co., Wheeling, W. Va., have completed arrangements recently outlined, and the Wheeling Steel & Iron Co. has increased its capitalization from \$5,000,000 to \$7,500,000. As lately stated, the company plans extensive improvements, additional construction, installation of new machinery, etc. Officers have been elected as follows: I. M. Scott, president; F. W. Hen-

derson, vice-president, secretary and treasurer; C. R. Hubbard, chairman of executive committee; Messrs. Scott, Henderson and Hubbard, J. J. Holloway, B. W. Peterson, Edward Ewing and Wm. F. Stifel, executive committee.

### American Peat Society.

The program of the annual meeting of the American Peat Society, to be held at Duluth, Minn., August 20-22, includes these papers:

"Crops for Peat Soils," by Dr. F. V. Coville, United States Bureau of Plant Industry.

"Problems to Be Solved in Developing a Dewaterer for Peat," by G. Herbert Condict, Plainfield, N. J.

"General Drainage Work, or Reclamation of Swamp Areas," by Dr. Joseph Hyde Pratt, State Geologist of North Carolina.

"Latest Development in the Peat Gas Producer," by F. B. Haanel, Canada—Department of Mines, Ottawa, Canada.

"The Possibilities of Peat in the Beneficiation and Smelting of Iron Ores," by Prof. Peter Christiansen, University of Minnesota.

"Converting Peat into Fuel," and "The Origin and Nature of Muskeg Peat," by Prof. Charles A. Davis, United States Bureau of Mines.

"The Peat Industry in Ireland," by Thomas Tomlinson, Dublin, Ireland.

"The Use of Peat in the Northwest Provinces of Russia," by K. v. Lubkowski, Warsaw, Russia.

"Peat Briquetting," by Dr. J. McWilliam, London, Canada.

"Briquettes from Peat and Petroleum," by Robert Blei, Sacramento, Cal.

"Practical Demonstration of Herbein's Patent, by a Small Working Model of the Herbein Briquetting Machine," by C. A. Squire, Cleveland, O.

"Experiments in Growing Greenhouse Crops on Muck or Humus Soils," by Prof. Homer C. Thompson, United States Bureau of Plant Industry.

"How to Prepare a Peat Bog for Fuel Making," by Gustave Carlson, Farnham, Ont., Canada.

"Chemical Composition of Some Minnesota Peat Soils," by Dr. F. Hungerford, University of Minnesota.

"Application of Machinery on Peat Deposits," by L. A. Krupp, Findlay, O.

John N. Hoff of New York city is president of the Society, and Julius Bordelle of Kingsbridge, New York city, is secretary-treasurer.

### Improvements at Palatka.

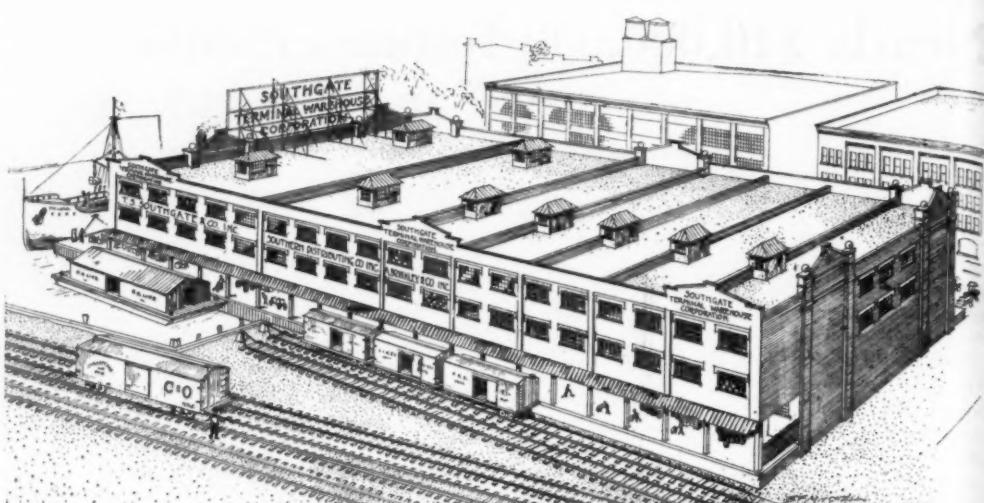
Board of Trade,  
Palatka, Fla., July 24.

#### Editor Manufacturers Record:

Capt. W. B. Denham, general manager, and S. J. Hollinrake, general superintendent, of the Ocala Northern Railroad, were in the city yesterday, and it was definitely decided to remove the company's repair shops from Silver Springs and Fort McCoy and concentrate them in this city. Master Mechanic Spencer, formerly with the Atlantic Coast Line, and an old resident of Palatka, will be in charge of the shops. It is also probable that General Manager Denham and General Superintendent Hollinrake will remove their headquarters to this city. The country through which the Ocala Northern operates is as fine as any in Florida, and with the increasing settlement the business of the road is constantly growing.

The new Clyde docks and warehouse and office building of the Clyde Steamship Co. here are rapidly approaching completion. The new building is 130 feet long and 40 feet wide, and will provide business offices, etc., with storage-room double the capacity of the present building, which will be torn down. The new building stands 20 feet farther out in the river on extra piling. This new structure will give Captain Adams long-desired improvements, all of which were planned under his direction. MOSES FOLSOM, Secretary.

Pennsylvania mined 265,306,139 tons of coal, or 46 per cent. of the total output of the United States, in 1913, and one-fifth of the world's production in that year.



PLAN OF FIREPROOF TERMINAL WAREHOUSE AT NORFOLK.

### Modern Terminal Warehouse for Norfolk.

In order to meet the demands for greater and better terminal facilities and to adequately handle the increased freight traffic which, it is predicted, will come to Norfolk upon the opening of the Panama Canal, the Southgate Terminal Corporation of that city plans to erect a three-story terminal warehouse, 300x115 feet, with sheds, trackage, etc., covering an area of 420x140 feet. The structure will be erected on a foundation of 1400 concrete piles, contract for which was awarded to the Richardson Construction Co. of Norfolk. It will contain 110,000 square feet of floor space and will be located on the water front adjoining the terminal of the Chesapeake & Ohio Railway Co. Modern facilities will be installed for handling freight, including nine elevators, wharves and platforms. Provision will also be made for moving shipments by small boats, such as trade between Norfolk and the rivers emptying into Hampton Roads and the Chesapeake Bay. The structure will be fireproof, and is expected to be completed by January 1. It was designed by B. F. Mitchell of Norfolk, and contract for its erection will soon be awarded, as construction bids were opened July 29. The terminal will be occupied by T. S. Southgate & Co., Inc., Southern Distributing Co. and A. Brinkley & Co., all large wholesalers, and it is said other companies are negotiating for space. An accompanying illustration presents a view of the building as it will appear when completed.

### \$500,000 Concrete Warehouse and Pier.

The \$500,000 warehouse and pier, reported some months ago in the MANUFACTURERS RECORD as to be built by the Canton Company of Baltimore, are nearing completion, and the company is prepared to build other piers as the demands of shipping may require. The warehouse is fireproof, having no wood in its construction. It is on the water front, and in proximity to a large industrial development and to excellent shipping and railroad facilities.

The building is of imposing appearance, and embodies many features both from efficiency and artistic standpoints. It is so planned that, should occasion arise, it could be easily converted into use for manufacturing purposes by reason of the unusual lighting and heating arrangements. It is of reinforced concrete construction, 6 stories high, 80x200 feet, with each corner ornamented with a large pylon, and exterior partially toolled and covered with a special cement. The warehouse contains 96,000 square feet of floor space, and is planned to sustain a safe load of 300 pounds per square foot. The foundation consists of large blocks of solid concrete 14 feet square by 12 feet high, resting upon 1881 wooden piles driven into the ground and cut off six inches below mean low tide, keeping them submerged and insuring their longevity. Automatic sprinklers are installed throughout the building by the General Fire Extinguisher Co. of New York, and rolling firedoors manufactured by the Kinnear Manufacturing Co. of Columbus, O., are used. Additional fire protection features are obtained by having each floor isolated from the

others and the stairways enclosed in concrete shafts. About 14,000 square feet of wired glass is used in "Fenestra" steel windows furnished by the Detroit Steel Products Co. of Detroit. The heating system was installed by William E. Wood Company of Baltimore, and the lighting by the National Electric Co. of Baltimore. Two large electric elevators, 12x16 feet each, manufactured by the Otis Elevator Co. of New York, are used in the building, and in addition, beams have been constructed on the outside of the building, to which hoisting apparatus is attached for handling freight to upper floors direct from the bulkhead to facilitate the moving of cargoes.

In connection with the warehouse is an 850x150-foot pier, to have a 35-foot channel leading from the main harbor channel. This channel is now being dredged by the Maryland Dredging & Contracting Co. of Baltimore. It will accommodate the largest vessels entering the harbor, and with the aid of two railroad tracks extending the length of the pier and connecting with the 14-mile railroad operated by the Canton Company, recently described in the MANUFACTURERS RECORD, and thence with all railroads entering Baltimore, will provide rapid and easy transportation facilities.

The pier is constructed on wooden piles cut off below mean low tide, with concrete retaining walls filled in between with sand and gravel and covered with concrete floor. It is constructed to carry a load of 300 pounds per square foot, or about 17,075 tons. A two-story steel structure will be erected on the pier within the next 60 days by McClintic-Marshall Construction Co. of Pittsburgh, Pa.

The concrete work and substructure for the pier and warehouse were by the Sanford-Brooks Company, with J. Wilson Richardson engineer in charge, and the building was designed by Edward H. Glidden and erected by the West Construction Co., all of Baltimore.

### Bank Merger at Savannah.

A report from Savannah says that the Savannah Trust Co. has bought the capital stock of the Chatham Bank, and that arrangements have been completed for the consolidation of the two financial institutions. Leopold Adler, president of the bank, will be elected president of the trust company, and the bank will be liquidated. President W. W. Mackall of the Savannah Trust Co. will become chairman of its executive committee. The trust company's capital, surplus and undivided profits amount to \$650,000, and its deposits are \$1,100,000. The bank's capital, surplus and undivided profits are \$286,000, and its deposits are \$861,000. It is said that there will not be any change in the capital stock of the trust company. It will use the building now occupied by the bank.

Barrow County Cotton Mills, Winder, Ga., reported last week as incorporated with \$125,000 capital stock, is a reorganization of Winder Cotton Mills, now operated on lease. The plant manufactures colored cotton goods.

**COAL BREAKS ALL RECORDS.**

**More Than 570,000,000 Tons Mined in 1913,  
Valued at \$760,000,000.**

The production of coal in the United States has again broken all previous records, the output for 1913 being 570,048,125 short tons, which is considerably more than double the production of 1900 and more than eight times the production of 1880, according to a statement just issued by the United States Geological Survey, from figures compiled by Edward W. Parker, coal statistician. The value of the coal mined in 1913 is given as \$760,488,785.

Compared with the previous year, the output for 1913 shows an increase of 35,581,545 tons, or nearly 7 per cent. The increased activity indicated by these figures was well distributed throughout the 20 coal-producing States, 23 of which showed increases and only six decreased production, the decrease in one of these—Colorado—being due solely to labor trouble. Of those showing increase, 12 made record yields, and Pennsylvania, the leading coal State, broke records in both bituminous and anthracite production. The States which broke all former records in coal production were Alabama, Illinois, Kentucky, Montana, New Mexico, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, and West Virginia. The largest increase in the production of bituminous coal was in Pennsylvania, where 11,915,728 tons was added to the output of 1912. West Virginia showed the second largest gain, 4,522,295 tons, and Kentucky the third largest gain, 3,125,078 tons, which was also the largest percentage of increase, amounting to 19 per cent., of all the important coal-producing States. Indiana was fourth, Illinois fifth, Ohio sixth and Alabama seventh. While the total increase was very large as figured in tons, the percentage is what may be considered normal and indicative of healthy industrial activity throughout the country.

Coal mining, like all other industries in the Ohio Valley States, was seriously interfered with by the great floods during the spring of 1913, and Mr. Parker estimates that from 5,000,000 to 10,000,000 tons of coal would have been added to the year's output but for this disaster. With no violent fluctuations in the demand by the blast furnaces, steel works and other manufacturing industries, the demand for coal for those purposes shows only a normal increase. The continued decrease in the use of fuel oil in the Mid-Continent oil field and the strike in the Colorado coal mines resulted in an increased output of coal in the Central and Southwestern States. With a few exception, notably in Illinois, Indiana and Oklahoma, values ranged higher than in former normal years, so that from the producers' standpoint the conditions in 1913 were fairly satisfactory.

The development of our coal-mining industry with reference to population presents some interesting comparisons. In 1850 the coal output was 7,018,181 tons, or 0.3 ton for each of the 23,191,876 inhabitants; in 1880 the population had increased to about 50,000,000 and the production of coal to about 71,000,000 tons, an average of 1.42 tons per capita. At the close of the nineteenth century the population was 76,303,387, an increase of a little over 50 per cent. as compared with 1880, while the production of coal had increased nearly 400 per cent. in the same period and averaged 3.53 tons for each person. In 1913 the per capita production was figured at 5.85 tons. In addition to this increase in the consumption of coal, the use in recent years of petroleum and natural gas should also be considered.

The coal mines of the country gave employment in 1913 to an army of nearly three-quarters of a million men—747,644.

**Four Decades of Work Well Done.**

At the request of family and friends, Charles B. Murray, who in 1913 retired from the ownership and editorship of the Cincinnati Price-Current, after 41 years of valuable and enduring work in those capacities, has published in an attractive pamphlet an outline review of his career as a pioneer in the application of statistics to the development of material activities of this country. In addition to his journalistic work, Mr. Murray was for nearly 20 years superintendent of the Cincinnati Chamber of Commerce. His reminiscences and comments are, therefore, of a character that appeal to a wide following.

**GOOD ROADS AND STREETS****SOUTHERN HIGHWAY ACTIVITIES.****Details of Week's Progress in Improvements  
in City and Country.**

Further details of road and street undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.

The MANUFACTURERS RECORD invites from its readers information about road and street work projected or under way, photographs of good roads and discussions of matters pertaining to the betterment of the highways of the South.

**Bonds Voted.**

Greensboro, N. C.—City voted \$100,000 bonds to pave streets.

Lillington, N. C.—Lillington and Little River townships of Harnett county voted \$20,000 bond issues, respectively, to construct roads; Hector's Creek township voted \$10,000 bonds.

**Bonds to Be Voted.**

Fort Meade, Fla.—City votes August 21 on \$25,000 bonds to pave streets.

Lexington, Tenn.—Henderson county votes August 6 on \$150,000 bonds to construct roads.

Pulaski, Va.—City votes August 22 on \$80,000 bonds to improve streets.

Southport, N. C.—Town Creek township of Brunswick county votes August 18 on \$10,000 bonds to construct roads.

Victoria, Tex.—District No. 1, Victoria county, votes August 14 on \$40,000 bonds to construct gravel road.

**Contracts Awarded.**

Dallas, Tex.—City awarded \$30,000 contract for 90,600 square feet cement sidewalks and 27,000 square feet concrete gutter.

Elizabeth City, N. C.—City awarded \$10,000 paving contract.

Easton, Md.—City awarded contract for 23,000 yards asphalt concrete pavement; \$40,000 available.

Greensboro, N. C.—City awarded contract to pave certain streets; cost \$35,000 to \$40,000.

Kaufman, Tex.—City awarded contract for about 12,000 square yards vitrolithic street pavement; amount available \$22,000.

Lonoke, Ark.—Lonoke county awarded \$30,505 contract to construct 11 miles of macadam road.

Marshall, N. C.—Madison county awarded \$34,454 contract to grade nine miles of road.

Montgomery, Ala.—State awarded \$6542 contract to gravel about three miles of road.

Snow Hill, N. C.—Greene county awarded contract to construct roads estimated to cost \$50,000.

**Contracts to Be Awarded.**

Baltimore, Md.—City receives bids until August 5 for 40,150 square yards sheet asphalt and 4810 square yards vitrified brick.

Clarksville, Tenn.—Montgomery county receives bids until August 7 to construct 10,000 cubic yards macadam surfacing and 55,000 cubic yards excavation.

Dawson, Ga.—City will pave Main and Lee streets; estimated cost of grading, paving, curbing and sidewalks, \$58,292.04.

El Paso, Tex.—El Paso county will construct asphalt macadam road estimated to cost \$100,000.

Fort Stockton, Tex.—Pecos county receives bids until August 13 to improve 250 miles of road.

Jasper, Ala.—Walker county will grade from 500 to 800 miles of roads; \$212,000 available.

Miami, Fla.—City receives bids until August 20 to extend paving and sewers to suburbs; materials to include asphalt, creosoted blocks, vitrolithic, concrete or brick; 55,000 square yards pavement.

Park City, R. Knoxville, Tenn.—City will construct about 1.8 miles sheet asphalt, concrete base; estimated cost \$80,000.

Park, R. Station, Knoxville, Tenn.—City will pave two miles of streets with asphalt; estimated cost \$80,000.

Salisbury, Md.—City receives bids until August 3 to improve streets; 12,500 linear feet combined concrete curb and gutter.

Tampa, Fla.—Hillsboro county receives bids until August 6 for 252,300 square yards brick pavement and 382,994 linear feet curb.

Texarkana, Ark.—City receives bids until August 1 to construct 8000 square yards concrete pavement.

Williamson, W. Va.—City receives bids until August 10 to construct 50,000 square yards brick, bituminous-macadam and concrete pavement; 1000 linear feet curbing, etc.

**\$6,581,500 Bonds in Six Months for Texas Roads.**

During the first half of 1914, seventy-three road and bridge bond elections have been conducted in Texas, according to data compiled by the Texas Business Men's Association. Fifty-one of these elections were successful and resulted in the issuance of highway improvement bonds in the sum of \$6,581,500, which is an increase of \$3,256,500 over the amount of road and bridge bonds authorized in the State during the same period of last year, and lacks only \$715,000 of equaling the total amount issued in 1913 for road work.

It has been the rule, rather than the exception, that out of every 10 elections held during the past six months, six of them have carried by large majorities. So far this year an average of \$3517 per day has been appropriated by bond issue in Texas for road building and maintenance. This is approximately \$1.00 per capita of population.

The Texas Good Roads Association has been an important factor in the development of the highway transportation facilities of this State, and to that organization much credit is due for the excellent showing made in Texas during the first six months of the current year. Commercial clubs, too, have played an important part in carrying the 73 elections so far this year, and in many instances Jupiter Pluvius and the mud hole have created sentiment for more and better roads in Texas. Following is a complete list of the successful road bond elections held in Texas since January 1, 1914:

Aransas county, \$25,000; Aransas county, causeway bonds, \$250,000; Bastrop county, Justice Precinct No. 1, \$50,000; Bastrop county, Elgin Precinct, \$30,000; Bell county, Temple Precinct, \$600,000; Bell county, Tal-coe district, \$15,000; Bell county, Precinct No. 2, \$105,000; Bell county, bridge bonds, \$30,000; Bell county, Rogers Precinct, \$250,000; Blanco county Road District No. 1, \$20,000; Brazoria county, Clue Road District, \$38,000; Brooks county, entire county, \$34,000; Collin county, Celina District, \$125,000; Collin county, Farmersville Precinct, \$200,000; Collin county, Princeton District, \$100,000; Collin county, Culleoka Precinct, \$65,000; Comal county, entire county, \$17,000; Denton county, Mustang District, \$22,500; Fannin county, Bonham District, \$250,000; Garza county, entire county, \$50,000; Harrison county, Marshall District, \$300,000; Hays county, Kyle Precinct, \$50,000; Hays county, entire county, \$100,000; Hill county, Itasca Precinct, \$150,000; Hunt county, Greenville District, \$400,000; Jackson county, Road District No. 1, \$60,000; Jeff Davis, Valentine Precinct, \$10,000; Kaufman county, Forney Precinct, \$250,000; Kaufman county, Terrell and Elmo Precincts, \$300,000; Kaufman county, Crandall Precinct, \$150,000; La Salle county, entire county, \$400,000; Live Oak District, Precinct No. 4, \$40,000; Matagorda county, Road District No. 5, \$30,000; Matagorda county, Road District No. 7, \$35,000; McLennan county, Justice Precincts Nos. 1 and 3, including Waco, \$1,075,000; Milam county, Thorndale Precinct, \$100,000; Milam county, Road District No. 8, \$100,000; Nueces county, Robstown Precinct, \$250,000; Nueces county, causeway bonds, \$165,000; Palo Pinto county, Mineral Wells District, \$100,000; Pecos county, Fort Stockton District, \$85,000; Reeves county, eastern half of county, \$100,000; Rockwall county, Rockwall Precinct, \$20,000; San Patricio county, causeway bonds, \$50,000; Scurry county, entire county, \$50,000; Smith county, Winona District, \$25,000; Tom Green county, San Angelo District, \$15,000; Victoria county, Road District No. 5, including Inez community, \$125,000; Wharton county,

El Campo District, \$100,000; Zavalla county, entire county, \$10,000; Zaballa county, La Pryor Precinct, \$20,000.

Judging from present indications, the amount of road bonds issued and to be issued in Texas in 1914 will be more than three times the amount issued in 1913.

### "Safety First" in Road Building.

The California Highway Bulletin for July 1, 1914, strikes a "safety first" keynote in the following brief editorial on the new State highway:

"California's State highway is laid out much as a railroad is planned. It provides for new ideas in traffic, for the 200-mile day of the individual traveler, for the motor-truck train, and for access to and through sections where the varied topography of this State means a jump from sea level to snow level in a day's tour."

"As with a railroad, safety is given consideration not thought of in ordinary road building. Grades are eliminated as much as possible, crossings of railroads at grade are abolished when that can be done, curves are made more sweeping and less blind, and mountain roads are protected and made over, so that touring in California will be a delight, never a menace, no matter what section of the State highway may be traversed by motorists.

"When one considers that the automobile traveler will be able to enter the State from Oregon, surmount that old barrier of Bailey's Hill, pass Mt. Shasta on the north, and, leaving the Great Valley on the south, take a panoramic road over the mountains into Los Angeles and roll into San Diego without having shifted gears once from Oregon to Mexico so far as grades are concerned—when one mentally reviews the old road and compares with the new, the safety feature of the State highway, the economical feature and the feature of 'city streets in country places,' all become apparent as contributions to the luxury of 'seeing California.'

"This great artery—825 miles long>equals the distance from New York to Savannah, Ga. We should say 'arteries,' for one trunk line will traverse the Sacramento and San Joaquin valleys, while another hugs the coast all the way. Laterals will connect up the county-seats, but the present plans are merely to provide a skeleton for the future road system of the State. At that it is to cost \$18,000,000, and by extremely careful buying on the part of an extremely efficient highway commission, that sum will come close to equaling \$30,000,000 spent under the wasteful township unit system that prevails in many parts of the country.

"So far as materials go, the State highway is hemmed in. California rock, cement and asphaltic oils are being used. California contractors have won out in most of the lettings, and the commissioners have made a good start by buying four Baby Caterpillars for use on the highway, both because of their efficiency and the fact that they do not damage this splendid pavement after it is finished.

"It is estimated that from 50,000 to 75,000 automobiles will make the trip in 1915 over the State highway between Southern California and San Francisco."

### American Road Congress.

The Government exhibit, which will be a feature of the Fourth American Road Congress in Atlanta, Ga., during the week of November 9, will include a remarkable series of models showing every type of road construction, from the military roads of imperial Rome down to the most modern types of market road and city boulevard. Reproductions of the roads built by the French Bourbons, by Napoleon, as well as the early specimens of macadam road built by John L. Macadam, will make the series historically complete. This exhibit, which is now being prepared by the United States Office of Public Roads, will also include a dynamometer equipment, by means of which the exact pull required on every type of road surface can be shown with mathematical accuracy.

According to Mr. Charles P. Light, business manager of the exposition, to be held in connection with the congress, many of the States are arranging for educational exhibits affording full information concerning roads and the materials of construction. Mr. Light states that although the congress is nearly four months off, reserva-

tions have already been made for the display of road machinery, engineering instruments and materials of construction sufficient to fill completely the auditorium, as well as an additional temporary structure which will occupy the entire street space extending for a city block and two-thirds of the available space in a viaduct having a length of two city blocks.

### Voluntary Road Maintenance.

John T. Patrick, writing from Bat Cave, N. C., to the MANUFACTURERS RECORD, says:

"Parties on the Charlotte-Asheville highway, on the Henderson-Asheville road, have organized a co-operative company and are employing road overseers and section men whose business it is to keep up the road and repair, just as the section men along the railroad do. The overseers serve without compensation; the section boss and others, one for each four miles of road, get pay.

"All those who contribute as much as 25 cents are members of the organization, and are entitled to one vote, and each 25 cents additional that is paid in entitles the contributor to a vote. In this way we can keep all the rocks that interfere with automobiles out of the road, as well as make repairs from time to time. A trial was made on this last summer. We tried it on one four miles. The section boss carries with him a sign that tells of the work being done, and requests others on the road to contribute. Very few people going over the road last summer refused to contribute."

### All Helped to Build Railroad.

The Matador & Northern Railroad, a line nine miles long, has just been completed and put in operation between Matador, Tex., and point near Roaring Springs on the Quanah, Acme & Pacific Railway. The construction of this road was made a popular movement, and at several times when labor was difficult to obtain people in and around Matador abandoned their usual occupations and set about building railroad, doing grading, laying ties and rails and aiding in ballasting the track. Local capital financed the enterprise, and among those who participated prominently in it are A. R. Echols and Newton Gaines, the latter being president of the road. Gasoline motor cars are to be operated. The completion of the line was celebrated by a big picnic.

### Special Peach Trains.

With the movement of peaches from the South Georgia orchards at its crest and that from the orchards of Northeast Georgia just coming on, the Southern Railway is now running from five to seven special peach trains out of Atlanta every night, carrying the luscious Elbertas to the markets of the East and North. The total movement over Southern Railway for the present season has run above 2000 cars of peaches to date, and with them about 200 cars of cantaloupes. The heaviest movement for any one day was that of the night of July 21, when 161 cars of peaches were moved and it was necessary to run six special peach trains from Atlanta to the East and one to the West.

### Some Expenditures at Memphis.

The Illinois Central Railroad Co. denies the recent report from Memphis that it would spend \$5,000,000 at the Nonconnah Yard. Only this spring the company completed the mechanical terminal at Nonconnah at a cost of about \$500,000, and it is just now finishing some track and grading costing between \$200,000 and \$300,000. It is not contemplated to do any more work at Memphis at this time.

Jamack Cotton Mills, Salisbury, N. C., has been incorporated, with an authorized capital of \$100,000, by M. L. Jackson, W. A. McCauley and J. C. McCauley.

A. P. Pfeifer, New Brunswick, N. J., is interested in plans for building a cotton mill, reported to be a \$300,000 investment, at Little Rock, Ark.

## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### COAL TERMINAL AT CHARLESTON.

#### Southern Railway Decides to Build Pier and Will Also Improve Line There.

Plans are being prepared by the Southern Railway Co. for the construction of a large coal terminal at Charleston, S. C. A tract of 114 acres of land with 4000 feet frontage on the Cooper River has been purchased from the Stonega Coal & Coke Co., which bought it several months ago from the Magnolia Cemetery Co., and the primary instalment of facilities, which will require about a year to complete, will be sufficient to load one ship at a time. This improvement will afford coal operators on the Southern lines opportunity to engage in the coal export trade through that port, which is now commanding particular attention since it was published that the Carolina, Clinchfield & Ohio Railway would also build a coal pier there.

According to announcement by President Fairfax Harrison of the Southern Railway, this construction now determined will be only the first unit of an extensive fuel terminal. Although the beginning will be comparatively modest, it will be equipped in the best manner with all modern improvements in the way of facilities for the transfer of coal from cars to ships. The preliminary report of the engineers upon the plans has been made. Money for the construction is in bank. Negotiations for the terminal have been in progress for several years, and a decision to embark upon the proposed construction was attained some time ago. Last September the directors authorized the purchase of the site, which has now been acquired. It had been hoped to effect some arrangement which would be satisfactory for the use of the Holston Corporation's terminal, which is being built for the Clinchfield road, but as this could not be accomplished to meet the ideas of some coal operators on the Southern's line, it was decided in May to build the additional pier for the Southern Railway alone.

The Stonega Coal & Coke Co., whose fuel operations are in the region around Stonega, Va., the president of which is D. B. Wentz of Philadelphia, is a large shipper over the Southern. Its outlet from the mines is via the Interstate Railroad, its own line, to Norton, Va., where connection is made with the Southern through the Virginia & Southwestern Railway of that system.

In addition to the cost of constructing the coal terminal at Charleston, the railway company will be obliged to spend considerable money for improvements to its line from the mines to Charleston to handle heavy traffic. The total amount to be disbursed will run into millions of dollars.

### CAROLINA COAST RESORT.

#### Electric Railway from Wilmington to Two Beaches—Other Plans Related.

The Wilmington & Carolina Beach Railway Co., which was chartered last year, has organized at Wilmington, N. C., and proposes to build an electric railway on several streets there, and to Wilmington and Carolina beaches, it being the intention of the promoters of the enterprise to have it completed for service by the beginning of next summer's vacation season. It will be altogether about 10 miles long. Surveys have been made by J. F. Heyward, the chief engineer, and options on right of way are obtained.

C. C. Chadbourne of Wilmington, who was elected president of the company at the organization meeting in the office of Herbert McClammy, in the Garrell Building, is reported saying that the capital necessary for construction has been secured. Everything is ready to start work as soon as the city franchises have been granted. The other officers of the company are: Vice-president, A. E. Leckie of Washington, D. C.; secretary and treasurer, Jos. J. Loughlin; general counsel, A. E. Leckie and Chas. Hall Davis, the latter of Petersburg, Va.; general attorney, Herbert McClammy of Wilmington.

Directors include Messrs. Chadbourne, Leckie and Loughlin, Martin Newman, L. W. Davis and Adolph G. Ahrens.

The principal object of the company is to develop Wilmington and Carolina beaches, but it will also endeavor to develop truck raising and fishing interests in the territory which its railway will accommodate. A lighting service is to be provided by the railway power plant, which will supply electricity for various purposes in its field of operations, where there is now no such supply. It is furthermore understood that steps will be taken to make the beaches all-the-year-round resorts, and it is anticipated that this intention will result in the erection of hotels. There has not, however, been any announcement that such buildings would be provided immediately.

#### New Equipment, Etc.

Southern Pacific Company has ordered 40 passenger cars from the Pullman Company, Chicago.

Charlotte Harbor & Northern Railroad has ordered 25 more steel phosphate cars.

Illinois Central Railroad is reported in the market for 50 locomotives of the Mikado type.

Virginia & Southwestern Railway is receiving deliveries on its order for 200 steel coal cars.

Central of Georgia Railway is contemplating purchase of 4 Pacific locomotives.

Macon Railway & Light Co. of Macon, Ga., will buy 10 street cars.

Chicago, Burlington & Quincy Railroad has ordered 15 locomotives of the Santa Fe type from the Baldwin Works, Philadelphia.

Wellsburg, Bethany & Washington Railway, Wellsburg, W. Va., is reported in the market for a double-truck passenger car.

Atlantic Coast Line, according to a market report, will purchase some locomotives.

El Paso Belt Line has ordered 2 Baldwin locomotives.

The report that the Rock Island Lines ordered 10,000 tons of rails from the Colorado Fuel & Iron Co. is denied.

Kanawha & West Virginia Railway is reported to have arranged for an equipment trust to purchase about 400 new cars.

Kanawha & Michigan Railway, according to a report from Huntington, W. Va., has ordered 7 locomotives, 5 steel passenger cars and 1160 drop-bottom gondola cars of 50 tons capacity.

Richmond, Fredericksburg & Potomac Railroad has ordered 1000 tons of rails from the Pennsylvania Steel Company.

Southern Railway is reported to have ordered 6000 tons of rails from the Illinois Steel Co., 4000 tons from the Cambria Steel Co., 1000 tons from the Pittsburgh Steel Co. and 500 tons from the Carnegie Steel Co., making a total of 40,500 tons of rails ordered by the road, which includes the 29,000 tons previously reported awarded to the Tennessee Coal, Iron & Railroad Co.

Timpson & Henderson Railroad has voted \$200,000 of bonds for equipment.

Baltimore & Ohio Railroad has ordered 400 tons of bridge steel from the Mt. Vernon Bridge Co.

#### Dunn to Mt. Olive.

The Durham & Southern Railroad Co. announces that it will build an extension from Dunn to Mt. Olive, N. C., about 50 miles. The right of way has been obtained, and all other preliminary arrangements are made for the construction. The line is to be heavily constructed with 80-pound rails, and the maximum grade will be eight-tenths of 1 per cent., and the maximum curvature 5 degrees. The extension will traverse a rich agricultural region, and will connect with the Atlantic Coast Line, the Southern Railway, the Seaboard Air Line, the Norfolk & Western Railway and the Norfolk Southern Railroad. It is estimated that between one and a half and two years will be required to complete the extension.

At present the Durham & Southern Railroad is 61 miles long from Durham, N. C., southeast via Apex, Varina, Angier and other points to Dunn. B. N. Duke of New York is the president, and J. E. Stagg of Dur-

ham is vice-president and general manager. It has 6 locomotives and 153 cars. It has always been an active and progressive road.

#### Baltimore & Ohio Statement.

The Baltimore & Ohio Railroad Co. has issued its complete statement of earnings and expenses for the fiscal year ended June 30. It shows operating revenue \$97,411,441, decrease as compared with the last fiscal year \$4,144,691; operating expenses \$72,054,893, decrease \$1,724,745; net operating revenue \$25,356,548, decrease \$2,419,946. It should be observed that although there was a decrease of \$1,812,429 in expenses for maintenance of way and structures and of \$1,641,224 in maintenance of equipment, transportation expenses increased \$1,425,096; general expenses, \$178,190, and traffic expenses, \$125,613.

The statement for June, 1914, shows operating revenue \$7,801,303, decrease as compared with the same month of last year \$1,214,124; total operating expenses \$6,279,606, decrease \$435,534; net operating revenue \$1,521,697, decrease \$778,590. This does not include outside operations of the company, which, it is estimated, will show a deficit in net for June of \$75,000. Last year for the same month the deficit in this account was \$92,090.48.

#### For a Missouri Interurban Railway.

Plans to build an electric interurban railway system which may ultimately connect St. Louis and Kansas City, Mo., are being revived, according to a report from Fulton, in that State. Wm. B. McKinley of Champaign, Ill., president of the Illinois Traction Co., is represented as having recently conferred with commercial clubs in that and other towns as to possibilities of an extensive interurban electric railway system to reach Fulton, Columbia, Mexico, Fayette and other points, besides Jefferson City, where the McKinley interests already control the local street railway through the Western Railways & Light Co., of which he is president. It is possible that an extension from Jefferson City may be built to Columbia, Mo., about 28 miles, although Mr. McKinley is reported saying that the Missouri transportation laws regulating the amount of stock in a Missouri corporation which may be held by a corporation of another State are so strict as to bar the way to obtaining capital. At Columbia plans for the construction of a local street railway are under way.

#### Augusta-Aiken Earnings.

The Augusta-Aiken Railway & Electric Corporation reports for the year ended June 30 gross earnings \$673,188.96, increase as compared with the next preceding year \$60,132.88; operating expenses and taxes \$362,855.85, increase \$11,433.45; net earnings \$310,333.11, increase \$48,690.43; total income \$335,079.69, increase \$43,918.12; surplus after deductions for interest and sinking fund \$125,523.60, increase \$33,792.90. For June the gross earnings were \$54,985.78, increase \$4109.32; net earnings \$26,320.20, increase \$4460.23; total income \$30,088.53, increase \$5330.62; surplus \$12,430.21, increase \$4818.64.

#### Street and Interurban Railway.

A franchise to build an electric street railway has been granted at Elizabeth City, N. C., to T. J. Markham, J. E. Commander and D. E. Williams, who propose to build an interurban railroad from Wades Point and Listers Pier, in the lower part of Pasquotank county, via Elizabeth City and South Mills to Norfolk, Va., about 100 miles. Such a line would traverse a trucking country about halfway between the main line and the Suffolk divisions of the Norfolk Southern Railroad.

#### Pre-Cooling Florida Fruits.

A cold-storage room for pre-cooling citrus fruit, having a capacity of 14 cars, is being established at Winter Park, Fla., by the Winter Park Refrigerating Co.

## MINING

#### CLINCHFIELD COAL ACTIVITY.

**Big Sales to Steamship Lines and for Export Trade.**

L. S. Evans, vice-president Clinchfield Fuel Co., Spartanburg, S. C., writes to the MANUFACTURERS RECORD:

"In reply to your recent letter making inquiry about our Galveston arrangements, we are pleased to advise having made contract with the United Fruit Co. for a term of three years to furnish Clinchfield coal to its entire fleet of steamers plying between Galveston and tropical ports. During the present month we have been awarded contract by the War Department to supply Clinchfield coal exclusively to the transports now at Galveston for use in carrying troops to Mexico. There are about 13 or 14 steamers in the transport fleet. Galveston shipments will move by way of Hampton Roads until the Charleston facilities are ready."

"Our engineers have submitted plans for our storage arrangements at Galveston, and we hope to commence work thereon during the next 30 days. It will be necessary to carry constantly at Galveston a stock of from 10,000 to 25,000 tons of our coal. We will have barges mechanically equipped to rapidly place coal into bunkers of steamers."

"Our plans for similar arrangements at Savannah have also been worked-out by our engineers, and we hope to commence work thereon during the next few weeks. We have contracts made this year with about 150 different steamship lines for furnishing Clinchfield coal for bunker use at Savannah and Galveston."

"Considering that this is our first year in the tide-water trade with Clinchfield coal, we are highly gratified with the progress we have made. In addition to the business mentioned, we have made a shipment to South America, and are negotiating for the sale of Clinchfield coal for movement to European ports. We feel that the opening of the Panama Canal will give American coal a decided advantage in the South American markets, as well as in the Canal Zone, where a very heavy tonnage will be used annually for bunkering steamers."

"Concerning our general sales for industrial and railroad purposes, we are very well satisfied with the results of our season's work. Our contracts exceed 2,000,000 tons, which is a larger amount than we have sold in any year since we began business; in fact, our sales this year are nearly 500,000 tons in excess of those of last year."

"We can report a very good movement of coal, notwithstanding general conditions, and our mines are now running six days a week."

#### Tennessee Marble in Wide Demand.

The Victoria Marble Co. of Knoxville, Tenn., in a letter to the MANUFACTURERS RECORD referring to the activity of its business, says:

"We are furnishing some 150 carloads of marble for the postoffice at New Haven Conn.; about 100 carloads for the James A. Hill Art Museum in St. Paul, and the St. Paul Public Library, some 30 carloads for the Wayne County Bank, Detroit, Mich., all of the above being Victoria Pink, for exterior use; also some 20 carloads of Tennessee marble for the interior of the new city hall in San Francisco."

#### Llano-Burnet, Tex., Minerals.

The United States Geological Survey has issued, as Bulletin 450, a report entitled "Mineral Resources of the Llano-Burnet Region, Texas," by Sidney Paige. The region covered by the report includes portions of Llano, Mason and San Saba counties, in central Texas. A geologic map of the whole State and also an economic and deologic map of the area described as the Llano quadrangle is contained in the bulletin. The result of many examinations of iron ores of this region are given; also the results of many assays of specimens that were said to contain gold, but the quantities of gold found

were small. The copper, graphite, rare metals and structural materials found in the area are discussed briefly. The report describes granite of three types and states that there is an enormous quantity of clean granite in the region, much of it well suited for large structures were transportation better and a more active market available. The supply of granite in this region is practically inexhaustible, and as transportation facilities improve and the demand for structural material increases by reason of the growth in population, the granite industry will in time become one of the most important industries in this part of the country. The area contains several active granite quarries. The Granite Mountain quarry, located on the Houston & Texas Central Railroad near the town of Marble Falls, has furnished material for the capitol building at Austin and for courthouses in Galveston, Houston and other places.

### Maryland Coal in 1913.

The coal mined in Maryland in 1913 amounted to 4,779,839 short tons, valued at \$5,927,046, according to figures compiled by E. W. Parker of the United States Geological Survey, in co-operation with the State Geological Survey. This was less than the amount mined in 1912 by 184,199 short tons, but the value showed a gain of \$87,967 and exceeded that of any other year since 1907. The annual production of coal in Maryland has been fairly constant for the last 16 years, the smallest output in that period being in 1909, when it amounted to 4,023,241 tons, and the largest in 1907, when it reached 5,532,628 tons. The output in 1913 was very close to the average of the 16 years. It is not to be expected that the production will show any material increase in the future, as the "Maryland big vein," from which the larger part of the output has been obtained, is approaching exhaustion, and although there is still a good supply remaining in the thinner and deeper beds, it is not probable that the future annual tonnage from them will exceed the records of the past, if, indeed, it maintains the same importance.

### To Drain 300,000 Acres in Florida.

The Upper St. John's Drainage District, Titusville, Fla., will drain agricultural lands in upper St. John's Valley, on the east coast of Florida, comprising 300,000 acres extending over parts of Brevard, Orange and Osceola counties. It is about 40 miles long by 20 miles wide, and includes three basins. Formal establishment of the district is proposed within two months, after which complete detailed engineering estimate will be obtained. Isham Randolph & Co., Chicago and Jacksonville, have reported on the project, and Vans Agnew & Crawford, Jacksonville and Kissimmee, represent the petitioners.

### Boiler Manufacturers.

The American Boiler Manufacturers' Association will hold its twenty-sixth annual convention in New York city September 1-4. All boiler, tank and stack manufacturers and fabricators of steel plate, also manufacturers and representatives of materials and supplies used by boiler manufacturers, are invited to attend the convention. The secretary of the association is F. B. Slocum, West and Calyer streets, Brooklyn, N. Y.

### Soapstone of Virginia.

Soapstone production in the United States (26,562 tons in 1913) exceeds that of all other countries combined. In the rough, as quarried, soapstone is worth \$2 a ton; sawn into slabs, its value exceeds \$15 a ton, and when manufactured into laundry tubs its value is about \$30 a ton. Virginia furnishes about 95 per cent. of the supply.

### A \$400,000 Mining Corporation.

Capitalized at \$400,000, the W. R. Johnson Corporation of Crescent, P. O. at Montgomery, W. Va., has been incorporated by S. M. Hitchcock, Buckner Clay, A. C. Collins and others.

## MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

### "Norvalux" Ornamental Units for Street Lighting.

An attractive line of fixtures, known as "Norvalux" ornamental units, designed for operation of the new series of Mazda lamps for "White Way" or ornamental street lighting, is now being manufactured by the General Electric Co., Schenectady, N. Y. The units are highly ornamental, and the casings, which are designed to form the capital of the pole, are made in four different styles, from which a selection can be made to harmonize with the pole design.

"Norvalux" units are made for both series and multiple operation, and will accommodate the 400 and 600

candle-power, 6.6 ampere, and the 600 and 1000 candle-power, 20 ampere sizes of the series Mazda, and the 400, 500, 750 and 1000 watt multiple Mazda lamps. Two general styles, Form 4 and Form 5, are made, with the only difference, however, being in the glassware equipment.

The glassware on Form 4 consists of a medium alabaster globe, so shaped that it is completely filled with light and permits a certain amount of light to pass upward and illuminate the building fronts. A small reflector is placed inside the top of globe to direct downward and make useful the light that would otherwise be lost in the bottom of the ventilator surmounting the globe.

Form 5 consists of a two-piece globe with the bottom part made of crystal rough inside glass, while the top is made of Pyro glass. No reflector is used in this type, as the Pyro top is made of dense glass having the inside glazed, thus answering the purpose of a reflector.

The important feature of ventilation in fixtures of this kind has been given careful attention. The socket used is made in skeleton form, which permits a circulation of air to all parts.

An internal individual compensator, mounted inside of the ornamental casing, permits the lamps to be connected in standard existing circuits, thereby allowing extension of the lighting system without additional station equipment. Two different sizes of compensators are made, for use, respectively, with the 600 and 1000 candle-power 20 ampere series Mazda lamps, and are equipped with taps for operation on either 6.6 or 7.5 ampere series alternating constant current circuits. The "Norvalux" ornamental series unit is mounted on a strain insulator whose function is to keep high voltage from the poles.

### Lyton Steam Traps.

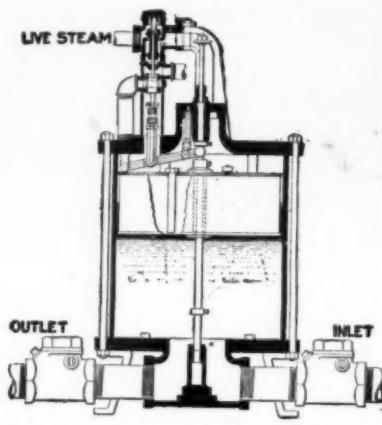
In the design of the Lyton vacuum lifting return trap, manufactured by the Lyton Manufacturing Corporation of Franklin, Va., the company states that it has incorporated many interesting and exclusive mechanical features. It is particularly adapted to vacuum work and trap engineering generally, and is valuable for service in ice plants, or in breweries where condensation is used for ice-making.

No delicate mechanism is employed in its construction, and the valves are heavily constructed of special metal. The construction of the floating piston permits of using a float of great buoyancy, and if working under vacuum, the same vacuum obtains inside of the float as in the system, except during the discharge period.

The company states the traps will handle effectively the condensation from any apparatus under high or low pressure, or vacuum, and discharge the same to any

height or distance to tank, trap system, or direct to boiler, and that it will retain any vacuum that can be produced and can be used as a mixed pressure trap. Liquids at a temperature of 40 degrees or higher may be handled.

In operation the condensation flowing into the trap raises the floating piston from the bottom of the trap until it engages the collar on the upper part of the tappet rod, which runs vertically through the trap and



SECTIONAL VIEW OF LYTON TRAP.

guides the float, as shown in the sectional view. The float continues to ascend, the tappet rod raises, closes the vent valve and opens the live steam valve of the float and establishes the same pressure within the float as on top of it before the float starts on the downward discharge stroke. At the finish of the downward stroke, the float engages the collar on the lower end of the tappet rod, pulls the rod downward, closes the steam valve, opens the vent valve, and the trap again begins to fill.

The traps are built with capacities of from 1000 pounds to 60,000 pounds of liquid per hour, and larger if required.



HOTEL WILMINGTON, WILMINGTON, N. C.

The Hotel Wilmington, at Wilmington, N. C., is nearing completion. This structure is being erected for the Cape Fear Hotel Co., and is 100x68 feet, 10 stories and half-basement. It is of fireproof reinforced concrete, brick and steel construction, with limestone and granite trimmings, with about 165 rooms. The building, which will be steam heated and electrically lighted, will be covered by Barrett specification (gravel) roof. It was designed by S. P. Tinsley of Spartanburg and erected under the direct supervision of T. A. Green of Wilmington, one of its owners. The estimated cost is \$200,000. C. Gresham of Spartanburg will be the manager.

The Board of Trade of Morristown, Tenn., is circulating in convenient pamphlet form facts and figures about that city and its environs.



L. L. STEPHENSON'S BRICK PLANT AT LOVICK, ALA.

## ELECTRICALLY-OPERATED SOUTHERN BRICK PLANT

Illustrative of the up-to-date methods which are coming into play in Southern industrial interests is the modern face-brick plant, having capacity of 10,000 bricks per hour, at Lovick, Ala., of L. L. Stephenson, Empire Building, Birmingham, which is operated throughout electrically by individual motors for each machine, representing the latest practice in brick plant operation. This plant produces red shale common and

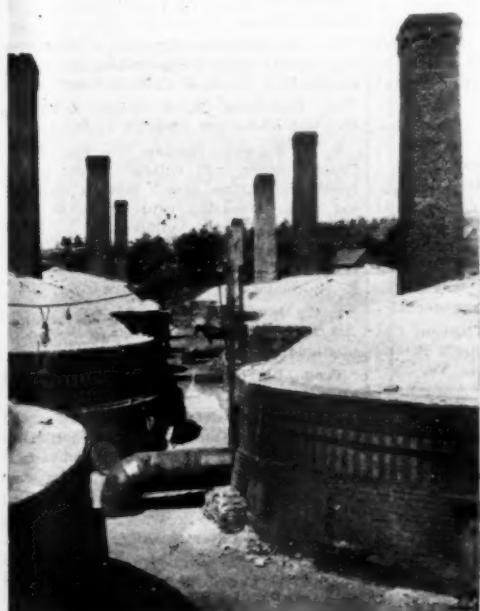
Oriental brick, the latter resembling a tapestry brick with a rough wire-cut surface.

The shale is mined several hundred feet from the plant, as shown in one of the accompanying illustrations, and hauled by cars furnished by the Ohio Ceramic Engineering Co. of Cleveland, O., to a gyratory crusher; thence to elevators, which were supplied by the S. Flory Manufacturing Co. of Bangor, Pa., and which were equipped with hoisting motor, manufactured by the Crocker-Wheeler Company, Ampere, N. J. These elevators carry the crushed shale into a steel bin holding 240 tons. The shale is discharged from the steel bin onto a disc feeder, from where it is conveyed to two nine-foot drying pans, manufactured by the Frost Manufacturing Co., Galesburg, Ill., or passes through pulverizers, depending on its condition. From the drying pans the shale is elevated and passes through piano wire screens onto a 16-inch belt conveyor and carried to a storage-room, where it is distributed by means of an automatic reversible tripper conveyor, which travels back and forth, spreading the material over a 100-foot storage space. The material is then fed through holes in the floor, along the center, onto an underground conveyor and carried to an elevator for raising it to the steel bin over the "pug mill." From the pug mill the material is then fed into the brick machine, which is shown in an illustration, automatically cut and carried by trolley transfer cars supplied by the Lakewood Engineering Co., Cleveland, O., to the dryer, and thence to the 16 kilns, each of 70,000 bricks capacity, operated on the waste heat system. Three motor-driven fans are used to provide draught, circulation and exhaust for the kilns.

The brick machine, automatic cutter and blower fans were supplied by E. M. Freese & Co., Gallon, O., and most of the belting was supplied by R. & J. Dick, Ltd., of Passaic, N. J. Conveyors, elevators, automatic re-

versible tripper, etc., were furnished by the Link-Belt Company of Chicago, Ill.

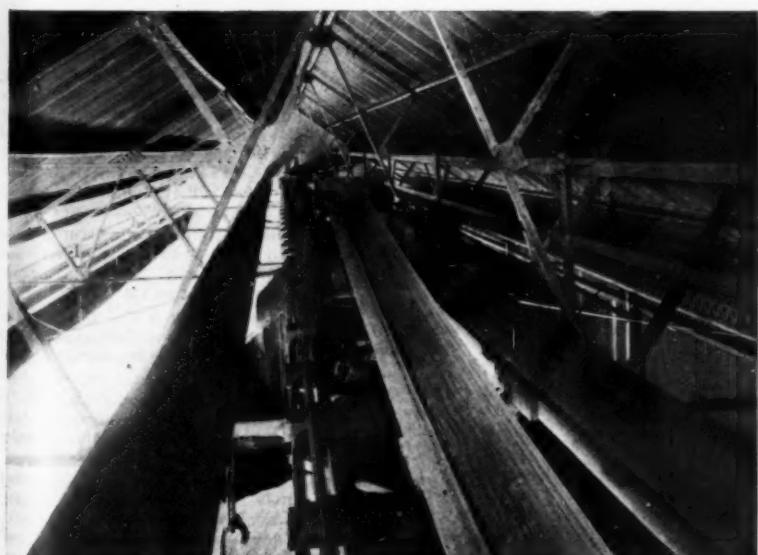
The power for the plant, which is furnished by the Alabama Power Co., manufacturer and distributor of electric power, with main offices in Birmingham, is received at 22,000 volts, and is stepped down to 550 volts for the use of the motors, and to 110 volts for illuminating purposes. A two-panel switchboard equipped with oil circuit-breakers protects and controls the various circuits. All the electrical equipment, excepting hoisting motor and transfer car, was supplied by the Westinghouse Electric & Manufacturing Co. of East Pittsburgh, Pa.



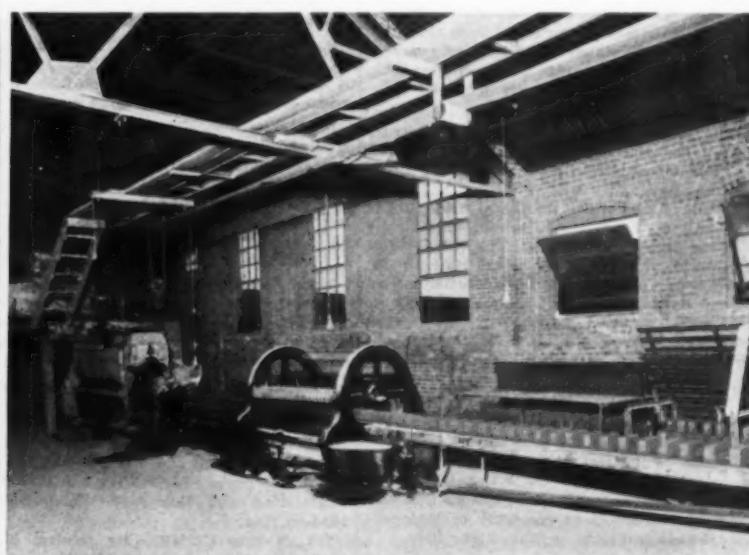
KILN YARD, SHOWING WASTE HEAT DRYER PIPES.



SHALE PIT, TRAM CARS, CRUSHER AND STORAGE BIN.



AUTOMATIC REVERSIBLE TRIPPER CONVEYOR.



"PUG MILL," BRICK MACHINE AND AUTOMATIC CUTTING TABLE.

# Construction Department

## IN ORDER TO FOLLOW UP

**Properly the Construction Department items, please bear in mind the following statements:**

### EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

### HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

### WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

**In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.**

### DAILY BULLETIN

**The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.**

**All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.**

### BRIDGES, CULVERTS, VIADUCTS

Ala., Camden.—Wilcox County Commrs. let contract to W. E. Ward, Pineapple, Ala., to erect bridge; 150 ft. long; 80 ft. span; steel and wood; metal roof.

Ark., Conway.—Levee Dist. No. 1 of Faulkner County will construct concrete culvert in Mill Bayou; bids until Aug. 3; G. H. Burr, Engr., Conway; J. E. Little, Prest. of Board. (See Machinery Wanted.)

Ark., Dalton.—Randolph County Commrs., Pocahontas, Ark., let contract Vincennes Bridge Co., Vincennes, Ind., at \$6390 to construct steel bridge across Eleven Point River at Dalton; length 330 ft.

Ark., Hot Springs.—Garland County Commissioners let contract Memphis Bridge Co., Memphis, Tenn., at \$2345 to construct steel bridge, 420 ft. long, across Gulpha Creek.

Ga., Macon.—Bibb County Commrs. have received legislative authority to issue \$250,000 bonds for bridges.

Ky., Louisville.—Board of Public Works, D. R. Lynn, Ch. Engr., will open bids July 31 (as lately stated) on reinforced concrete 56-ft. skew-arch bridge across Dupuy St.; cost \$13,000. (See Machinery Wanted.)

La., New Orleans.—City let contract Sterling Engineering Co. at \$25,985 to construct Scherzer rolling-lift bridge over Old Basin Canal on axis of Broad St.; Martin Behrman, Mayor.

Md., Baltimore.—Baltimore State Roads Com., O. E. Weller, Chrmn., 601 Garrett Bldg., asks bids until Aug. 13 to build Sections 1 and 2 of lately-noted Hanover St. bridge across Middle Branch, Baltimore city and Baltimore county; bridge about 2300 ft. long, 45 ft. above water, 70 ft. wide. (See Machinery Wanted.)

Miss., Edwards.—Hinds County Supvr., Jackson, and Warren County Supvr., Vicksburg, will have plans and specifications prepared for steel or concrete bridge across Big Black River at Edwards; Warren county plans to gravel road from Vicksburg to bridge.

Mo., Independence.—A. D. Ludlow is lowest bidder at \$10,078 to construct concrete approaches to bridge on Blue Ridge Blvd.

Mo., Springfield.—Greene County Commrs. let contract E. L. Meeks at \$6136 to construct 11 bridges in various parts of county.

N. C., Biltmore.—Buncombe County Commissioners will construct bridge across French Broad River; reinforced concrete; 120 ft. long; 60 ft. wide; cost \$12,000; Chas. Waddell, Engr., 78 Patton Ave., Asheville, N. C.; date of opening bids not set. (Lately noted at N. C., Asheville.)

Okl., Chickasha.—Grady county will construct 2 steel bridges—one across Washita River and other across Line Creek; bids until Aug. 3; J. D. Chastain, Chrmn. County Commrs. (See Machinery Wanted.)

Okl., Tulsa.—R. K. Hughes, County Surveyor, completed plans and specifications for 7 bridges; 1 structure across creek on Sand Springs Rd. near Lake Station; 4 on Sand Springs Rd. between Sand Springs and Wekiwa, to cost \$9000; 2 on Bird Creek Rd. to cost \$17,000; County Commrs. receive bids until Aug. 3.

S. C., Charleston.—Charleston County Supervisors authorized Wm. P. Cantwell, Supervisor, to ascertain cost and secure specifications for bridge to be constructed across Stono River at or near John's Island Ferry.

S. C., Columbia.—Seaboard Air Line Ry. W. D. Fauchette, Chf. Engr., Norfolk, Va., is reported to construct reinforced concrete bridge across tracks at Blanding St.

S. C., Florence.—Florence county, Jas. B. McBride, County Supvr., will erect 2 bridges costing about \$2500 each; two 26-ft. spans of girder and slab reinforced concrete construction, each bridge; 20-ft. roadway; construction by county force, supervised by Edwin M. Wayland, Consult. Engr., Columbia, S. C.; materials purchased. (Lately noted.)

Tenn., Selmer.—McNairy County Commrs. let contract Larimer & Burget Bridge Co., Memphis, at \$5640, to construct 12 steel bridges, and to Memphis Bridge Co., Memphis, at \$6600, to construct 12 steel bridges.

Tex., Cameron.—Road Dist. No. 2, Milam county, will receive bids early in August for bridging, in connection with 50-mi. road construction, contract for which was lately noted (under Road and Street Work) let to Howard & Taylor, Belton, Tex.; J. C. Field Engineering Co., Engr., 105 Field Bldg., Denison, Tex.

Tex., Corpus Christi.—City receives bids until Aug. 17 to construct Corpus Christi causeway; work divided into 3 contracts: No. 1—Bridging, embracing 2500 lin. ft. con-

crete bridges, 19 ft. clear width, with abutments, creosoted bulkheads and draw span; No. 2—Hydraulic fill, 6000 ft. long, containing 188,000 cu. yds., with brush mats and riprap; No. 3—Furnishing superstructure of draw span; Engrs., Bartlett & Ranney, Inc., Chandler Bldg., 108 E. Crockett St., San Antonio; H. E. Luter, County Clerk. (Lately noted. (See Machinery Wanted.)

Tex., Houston.—City will construct Wrightwood bridge; bids until Aug. 3; Ben Campbell, Mayor. (See Machinery Wanted.)

Tex., Lampasas.—Lampasas county voted \$14,000 bonds to construct 4 bridges. Address County Commrs.

Va., Floyd.—Floyd County Commrs. will construct steel bridge across Burk's Fork, consisting of one 37-ft. and two 18-ft. beam spans; concrete substructure; 73 ft. long; 12-ft. roadway; bids until Aug. 6; G. P. Coleman, State Highway Commr., Richmond, Va. (See Machinery Wanted.)

Va., Parkersburg.—Parkersburg-OHIO Bridge Co. let contract Herman Laub at \$430,000 to construct bridge across Ohio River; steel and concrete; creosoted block floor; channel span of suspension type. (Lately noted.)

Va., Pentress.—Monongalia County Commrs., Morgantown, will construct bridge across Dunkard Creek; 120-ft. span; N. C. McCormick, County Engr., is preparing estimates on cost of concrete and steel.

### CANNING AND PACKING PLANTS

Ark., Leslie.—Co-operative Canning & Storage Co., capital \$50,000, incptd. by Ed Mays, A. C. Edwards, L. B. Bruner and others; will build fruit and vegetable evaporator, vinegar, grape juice and cold-storage plant.

Fla., Fernandina.—Dunbar, Lopez & Duane will build shrimp cannery; 150x50 ft. corrugated galvanized metal construction.

Fla., Madison.—Merchants & Farmers' Ginning Co., capital stock \$5000, incptd.; R. A. Millinor, Prest.; P. J. Parramore, Secy.-Treas.

Ga., Lumber City.—Lumber City Canning Co., capital \$5000, incptd. by D. N. Phillips, J. H. Wilcox, C. J. DeLoach and others.

Ga., Davisboro.—W. W. Abbott, Louisville, Ga., and others are reported to build gin.

N. C., Burgaw.—Burgaw Gin Co., W. D. Croom, owner, will enlarge plant; install boiler and engine, also 3 gins to replace 2 old gins, increasing capacity to 45 bales daily; has enlarged buildings.

S. C., Salley.—Salley Gin & Supply Co., capital \$4000, incptd. by Geo. L. Sawyer, D. E. Holcombe and E. G. Haltiwanger.

S. C., Mayesville.—Mayesville Gin Co., capital \$1500, incptd.; J. T. Bland, Prest.; H. C. Bland, V.-P., Secy. and Treas.

Tenn., Big Spring.—Jos. Grubb will build gin.

Tenn., Ramer.—Ramer Gin Co. will rebuild plant; erecting ironclad gins and cottonseed house; hydraulic presses; daily capacity 30 bales.

Tex., Bandera.—Farmers' Gin Co., capital stock \$7500, incptd. by W. E. Mansfield, Lee Risinger and Albert Stelling.

Tex., Danner.—Danner Gin Co., capital stock \$7500, incptd. by Lee Love, A. G. Allen and R. H. Finley.

Tex., Frost.—Irene Gin Co. increased capital stock to \$10,000.

Tex., Kerens.—Farmers' Ginning Co. increased capital stock from \$10,000 to \$15,000.

### COTTONSEED-OIL MILLS

Ala., Birmingham.—Magic City Cotton Oil Co., S. B. Brown, Prest., Albany, Ga. (lately noted incptd., capital stock \$75,000), will not build plant; purchased former property of Kentucky Refining Co.; also bought mill at Ozark, Ala., changing name to Mutual Cotton Oil Co., and mill at Tennille, Ga., changing name to Washington Cotton Oil Co.

Ala., Ozark.—Mutual Cotton Oil Co. organized by S. B. Brown, Albany, Ga., and others; purchased mill. (See Ala., Birmingham—Magic City Cotton Oil Co.)

Ga., Augusta.—Swift & Co., Chicago, Ill., do not contemplate immediate construction of lately-noted plant. (See Fertilizer Factories.)

Ga., Tennille.—Washington Cotton Oil Co. organized by S. B. Brown, Albany, Ga., and others; purchased mill. (See Ala., Birmingham—Magic City Cotton Oil Co.)

S. C., Denmark.—Denmark Oil & Fertilizer Co. (lately noted incptd., \$30,000 capital stock) organized; G. M. Dickinson, Prest.; A. P. Guess, Secy., Treas. and Mgr.; purchased Denmark plant; let contracts for all necessary additions and equipment; mfrs. cotton products. (See Fertilizer Factories.)

July 30, 1914.]

## MANUFACTURERS RECORD.

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Tex., Dallas.—Texas Cake & Linter Co., capital stock \$10,000, incptd. by R. L. Heflin, Joe Wallison and others.

## DRAINAGE SYSTEMS

Arkansas.—Keystone Drainage Dist., comprising parts of Mississippi, Craighead and Polk counties, organized with about 400 sq. mi. area; retained Willis E. Ayres, Engr., Memphis, Tenn., to report upon feasible plan to reclaim this territory, together with plan for handling waters from Little River Drainage Dist. of Southeastern Missouri, which enter Keystone Drainage Dist. from the north.

Fla., Titusville.—Upper St. Johns Drainage Dist. organized to drain agricultural land in upper St. Johns Valley on east coast; 300,000 acres, extending over parts of Brevard, Orange and Osceola counties; 40 mi. long and 20 mi. wide; extends from Fellsmere Farms on south to Possum Bluff on north, and includes 3 basins—Lakes Pointsett, Winder and Washington; contemplate formal establishment of district within 2 months, after which complete detailed engineering estimate will be obtained by Board of Supervs.; Isham Randolph & Co., Engrs., Chicago and Jacksonville, have reported on project; Vans Agnew & Crawford, 914 Heard Bldg., Jacksonville, and Citizens' Bank Bldg., Kissimmee, Fla., solicitors for petitioners.

Ky., Henderson County.—Pond Creek Drainage Dist. has surveys and plans of reclamation by Bureau of Drainage Investigations, United States Dept. of Agriculture, under direction D. L. Yarnell, Washington, D. C.; provides drainage along Pond Creek and Ohio River, Henderson county; 2 separate drainage units; eastern part to drain into upper part of Pond Creek, to be improved and diverted northwest through Anderson Slough into Ohio River; remainder to drain into intercepting ditch to be constructed from Pond Creek directly west to Ohio River, north of Uniontown; propose to improve channel of Pond Creek for 3 mi. above intercepting ditch; 5 laterals for western unit; build sluice and gate to prevent backwater from Ohio River entering district through Pond Creek ditch; sluice way to be topped by earth dike; intercepting ditch in western unit to have depth of flow of 6 ft. and bottom widths from 10 to 20 ft.; estimated cost of Pond Creek ditch \$70,621, and of intercepting ditch \$93,300; total cost \$172,951.

La., Baton Rouge.—Mayor Grouchy and others are interested in proposed construction of drainage canal from city limits to point near Pass Manchac.

La., Marksville.—Avoyelles Drainage Dist. No. 4. C. Kelone, Prest., will construct drainage canal from lowland west to lowland east of Marksville; excavation 150,000 cu. yds.; bids until Aug. 4. (See Machinery Wanted.)

La., White Castle.—White Castle Drainage Dist. organized with Chas. O. Whaley, Sr., Prest.; L. N. Folse, V.-P., and S. M. Levy, Secy.-Treas.; 11,000 acres land in district; votes Sept. 1 on \$60,000 bonds. (Lately noted.)

N. C., Concord.—Cabarrus county will construct drainage canal in bottoms of Codde Creek; length, 5.09 mi.; 14,000 ft. to be 14 ft. wide at bottom and 10 ft. deep, with slope of  $\frac{1}{2}$  ft. horizontal to 1 ft. vertical; remainder to be 16 ft. wide at bottom and 10 ft. deep, with same slope; excavation, 180,000 cu. yds.; Drainage Commrs., R. W. Fleming, Secy., receives bids until Aug. 7; W. D. Alexander, Engr., Charlotte. (See Machinery Wanted.)

## ELECTRIC PLANTS

Ala., Citronelle.—Citronelle Public Service Corp., capital stock \$10,000, incptd.; Edward P. Corey, Prest.-Treas., Citronelle; Fred T. Kelsey, V.-P., New York; Edward J. Stebbins, Secy., Citronelle; Eliot C. Wells, Engr.; erect 57x22 ft. concrete building; construction bids opened July 27; steam power; develop 75 K. W.; 2 mi. transmission, 2 mi. completed; also install 6 to 8-ton ice machine; asks prices on ice and electrical machinery. (See Machinery Wanted.)

Ark., Mena.—Bear State Power & Development Co., capital stock \$25,000, incptd. by Geo. D. Thayer, J. W. Bradley and Minor Pipkin.

Fla., Clearwater.—City Council granted franchise C. H. Evans and others to build electric-light and power plant; city will vote Aug. 25 on ratification of franchise.

Fla., Delray.—City, A. F. Miller, Mayor, will construct water-works and electric-light plants; bond issue \$20,000. (Previously noted.)

Fla., Detroit.—Detroit Ice, Light & Power Co., capital \$25,000, organized with F. W. Symmes, Prest.; M. G. Tracy, V.-P.; C. F. Keep, Secy.-Treas.; will build electric-light, power and ice plant. (Lately noted.)

Fla., Fort Meade.—City votes Aug. 21 on \$25,000 bonds to purchase or construct electric light plant. Address The Mayor. (Lately noted.)

Fla., Marianna.—City votes Oct. 20 on \$50,000 bonds to construct electric-light plant and water-works; Paul Carter, Mayor.

Fla., Oviedo.—M. M. Smith, V.-P. Bank of Oviedo, is interested in securing establishment of electric-light and ice plant. (See Machinery Wanted.)

Fla., Palatka.—Paul H. Norcross of Solomon-Norcross Co., Atlanta, Ga., purchased Palatka Light & Power Co., including gas and electric plants; proposes to rebuild.

Fla., Pavo.—City voted bonds to construct electric-light system. Address The Mayor.

Ky., Lexington.—Transylvania University let contract to Frank Corbin, Lexington, to erect 45x89-ft. building for electric-light plant; steel trussed; tile roof. (Lately noted.)

La., Vivian.—Vivian Light & Power Co., capital \$15,000, incptd.

La., Winnsboro.—Carl Shipp will establish new plant; cost within \$10,000; construct brick building by day labor; initial development about 50 H. P.; asks bids on equipment. (See Machinery Wanted.)

Md., Salisbury.—Public Utilities Co., capital stock \$1,000,000, proposed organization to merge following corporations: Salisbury Heat & Power Co., Home Gas Co. and Salisbury Water Co., each of Salisbury; Sussex Light & Power Co. of Harford, Laurel and Delmar, Del.; South Delaware Gas Co., Seaford, Del.; Cambridge Light & Gas Co., Cambridge, Md.; Georgetown Light & Fuel Co., Georgetown, Del.; Easton Gas, Light & Fuel Co., Easton, Md.

S. C., Denmark.—City voted to construct electric-light system. Address The Mayor.

S. C., Walhalla.—City will construct pole-line distribution system; bids until Aug. 12; J. B. McCrary Co., Engr., 1406-1428 Third National Bank Bldg., Atlanta, Ga.; G. A. Norman, Chrmn. Commsr. Public Works; lately noted to have voted \$6000 bonds to build plant. (See Machinery Wanted.)

S. C., Westminster.—City will vote on construction of electric-light plant. Address The Mayor.

S. C., Winnisboro.—City, C. A. Robinson, Mayor, will vote Aug. 4 on \$100,000 bonds for electrical, water and sewer improvements. (Lately noted.)

W. Va., Hutchinson.—Monongahela Valley Traction Co., Fairmont, W. Va., will build 400-kilowatt electric plant driven by gas engines. (Lately reported.)

W. Va., Woodsdale, P. O. at Wheeling.—Wheeling Valley Light & Power Co. (lately noted receiving franchise) states will not build plant; under new municipal franchises, is extending electric-light lines to nearby towns; material contracted.

## FERTILIZER FACTORIES

Ala., Attalla.—J. S. Moragne contemplates equipping mill as fertilizer factory and rebuilding dam which furnishes water-power for operation.

Ga., Augusta.—Swift & Co., Chicago, Ill., advise as follows relative to previously-noted construction: Purchased property with view to building fertilizer plant and cotton-oil mill; had preliminary plans prepared, but do not contemplate immediate construction. (See Cottonseed-Oil Mills.)

Miss., Meridian.—Meridian Fertilizer Co. will remodel plant; improvements to include tower on sulphuric-acid building, lead walls for sulphuric-acid rooms, mixer, etc.; estimated cost \$7000; T. M. Thames, Gen. Sup't.

PROPOSAL ADVERTISEMENTS  
IN THIS ISSUE

## PUBLISHED ON PAGES 74 and 75

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Md., Rising Sun.—City does not contemplate construction of electric plant at present; lately noted to vote Aug. 3 on electric-light and water-works bonds. (See Waterworks.)

Miss., Wesson.—Dabbs & Wetmore, Meridian, have contract to rebuild electric-light plant wrecked by explosion.

Mo., Auxvasse.—M. R. Kennedy petitioned Public Service Com. for permission to install electric-light plant.

Mo., Hopkins.—D. A. Dalbey of Grant City, Mo., will build electric-light plant; cement construction; cost \$10,000; also install ice plant. (Mr. Dalbey lately noted as securing franchise.)

Mo., Monett.—City voted bonds for electric-light plant. Address The Mayor.

Mo., Montrose.—City voted bonds to construct electric-light plant. Address The Mayor.

Mo., Palmyra.—City voted \$26,000 bonds to improve light and water plants; J. M. Sosey, Clerk. (Lately noted as voting \$32,000.)

Mo., Pattonburg—City, R. E. Maupin, Mayor, granted franchise to Weaver & Wright, Walnut, Kan., to light city. (Lately noted.)

Mo., Pattonsburg.—City is reported to have granted franchise O. L. Wright and G. E. Weaver to install electric-light plant.

N. C., Kinston.—City engaged Gilbert C. White, Consult. Engr., Charlotte, N. C., to supervise improvements to electric-light plant, sewer system and paving; \$100,000 bonds voted; F. I. Fulton, Mayor. (Lately noted.)

N. C., Snow Hill.—City of Kinston, N. C., is considering proposition to furnish Snow Hill with electric lighting; build transmission line between 2 cities, distance of 16 mi. Address The Mayor.

S. C., Denmark.—Denmark Oil & Fertilizer Co., incptd.; capital stock \$30,000; G. M. Dickinson, Prest.; purchased Denmark plant; mfrs. cottonseed products. (See Cottonseed-Oil Mills.)

Va., Seaford.—Rowe Bros. & Sons Co., Hampton, Va., will rebuild burned plant; erect 50x80-ft. building and connections; plans not decided; considering fireproof construction.

## FLOUR, FEED AND MEAL MILLS

Ala., Reform.—R. M. Pooley, care of State Bank of Reform, is interested with others in proposed erection of feed mill; capacity about 80 bus. crushed corn; wants prices on equipment. (See Machinery Wanted.)

Okla., Columbus.—Empire Flour Mills will rebuild plant reported burned at estimated loss of \$150,000.

Va., Buena Vista.—Buena Vista Mills increased capital stock from \$15,000 to \$30,000; is building concrete dam, 285 ft. long and 10 ft. high; completion in two weeks; contract let to Major Bros., Clifton Forge, Va.

Va., Norfolk.—Acme Feed & Milling Co., capital \$15,000, incptd.; C. W. Green, Prest.; H. W. Osterhaut, Secy.

## FOUNDRY AND MACHINE PLANTS

Ala., Attala.—Pumps.—Kaiser Pump & Foundry Co. organized by J. A. Kaiser of Attala, G. H. Jacoway, Chattanooga, Tenn.; R. S. Rodgers, S. J. Hale and C. S. Turner of Trenton, Ga.

Ky., Louisville.—Milk Machinery.—Standard Milk Machinery Co., capital stock \$7000, incptd. by C. Mortensen, T. J. Hines and John J. Breman.

Ky., Owensboro.—Ditcher and Grader.—Owensboro Ditcher & Grader Co., capital stock \$250,000, incptd. by W. A. Steele, R. S. Hughes, C. A. Rogers and others to mfrs. patented ditcher and grader.

La., New Orleans.—Water Motors.—Eureka Water Motor Co., capital \$10,000, organized; Jos. B. Rochelle, Prest.; E. J. Ernst, V.-P.; N. B. Ernst, Secy.-Treas.

Tex., Corsicana.—Oil-well Machinery.—American Well & Prospecting Co. will build steel and semi-steel foundry; has begun construction.

Tex., San Antonio.—Pump Switch.—Automatic Pump & Telltale Switch Co., 408 Prudential Life Bldg. (lately noted incptd., capital stock \$2000), organized; J. Paul Howland, Prest.; T. W. Robertson, V.-P. and Mgr.; C. M. Chambers, Secy.-Treas.; considering having switches manufactured. (See Machinery Wanted.)

Va., Cambria.—Air Compressors and Pumps.—Guthrie Air Compressor & Pump Co., J. C. Brown, Prest., lately noted incptd., capital \$5000, will mfrs. air compressors and liquid pumps, patent of V. J. Guthrie, V.-P.; having trial machines made by Rockhill Machine Works, Roanoke, Va.; will not erect building or install machinery at present.

## GAS AND OIL ENTERPRISES

Ala., Opelika.—Gas Plant.—City granted franchise Wm. M. Jenkins (Prest. American Gas & Utility Co., Atlanta, Ga.) and others to build gas plant.

Ky., Cadiz.—A. C. Burnett Co. has acquired several acres oil leases and will drill wells. (See Machinery Wanted.)

Ky., Monticello.—Lanier Oil Co., capital \$6000, incptd. by Rex G. Carpenter, C. C. Duncan and E. E. Bell.

Miss., Seminary.—Seminary Gas, Oil & Mineral Co. organized with O. W. Conner, Prest.; G. R. Ellis, V.-P.; G. S. Hemeter, Secy.-Treas.

Okl., Berwin.—Horseshoe Oil & Gas Co., capital \$10,000, incptd. by W. F. Fisher and Will W. Paschal of Berwin and R. F. Schivalley of Ardmore.

Okl., Claremore.—Blevins Oil & Gas Co., capital stock \$400, incptd. by J. F. Flippin, A. B. Crowell and J. H. Flippin.

Okl., Cushing.—Oil Refinery.—Hillman Refining Co., capital \$15,000, incptd. by C. F. Hillman, H. Askin, C. R. Edgecomb and J. E. Ireland.

Okl., Durant.—Signal Mountain Petroleum Co., capital \$12,000, incptd. by C. C. Hatchett, Frank Lewis and Chas. R. Allen.

Okl., Monticello.—Eubanks Oil Co., capital \$8000, incptd. by Rex G. Carpenter, C. C. Duncan and E. E. Bell.

Okl., Muskogee.—Sophia Oil & Gas Co., capital \$6000, incptd. by W. S. White, B. B. Blakeney and C. T. Egloff.

Okl., Oklahoma City.—Dropright Oil Co., capital \$20,000, incptd. by F. L. Mulkey of Oklahoma City, E. M. Boggs and E. O. Boggs of Bartlesville.

Okl., Tulsa.—Andes Oil & Gas Co., capital \$24,000, incptd. by Geo. Schmidt and H. J. Hoppe of Tulsa and R. W. Morrison of St. Louis, Mo.

Tex., Gainesville.—Dexter Oil & Gas Co., capital stock \$15,000, incptd. by Cliff Johnson, C. H. Leonard and Leo M. Kuehn.

Texas.—A. C. Parks (Secy.-Treas., Henrietta Booster Club), Henrietta, Tex., secured leases on 15,000 acres oil lands adjacent to Electra and Petrolia fields; contemplating purchasing machinery to develop portion of leased lands, and desires to interest other parties in development of whole or part of lands. (See Machinery Wanted.)

Tex., Dallas.—Kaufman County Oil & Gas Co., capital stock \$25,000, incptd. by S. J. Houghton, A. S. Guillot and J. T. O'Hara.

Tex., Fort Worth.—Big Joe Oil Co., capital stock \$15,000, incptd. by G. W. Deats, C. D. Luck and G. A. Tomlinson.

Tex., Jacksboro.—Jacksboro Oil Co., capital stock \$20,000, incptd. by J. H. Jones, H. W. Peck and J. W. Paschal.

Tex., Jacksboro.—Jacksboro Oil Co., capital stock \$30,000, incptd. by J. H. Jones, H. W. Peck and J. W. Paschal, all of Dallas.

Tex., Kaufman County.—Kaufman County Oil & Gas Co. (main office, Gas Bldg., Dallas) incptd. with \$25,000 capital stock by S. J. Houghton (Prest.), A. S. Guillot, J. P. O'Hara and W. D. Crouch; owns 3000 acres oil lands in Kaufman county and will develop.

Tex., Sour Lake.—Cree-Le-Ho Oil Co., capital stock \$10,000, incptd. by P. J. Rutledge, C. D. Woods and E. A. Woods.

Va., Richmond.—Gas Plant.—City Gas Works, W. P. Knowles, Supt., 101 City Hall, receives bids until Aug. 10 to construct 3 piers of "Chollar" design, with foundation and connections complete. (See Machinery Wanted.)

Va., Suffolk—Gas Works.—Suffolk Gas & Electric Co. will rehabilitate gas works; install two new exhausters, engines, tar extractors, 4 ft. 6-in. station meter, Connolly governor and 100,000 cu. ft. two-lift steel tank gas holder; also lay 2 mi. street mains; contract for material let; work to be completed by Nov. 1; L. I. Pollitt, Gen. Mgr., Baltimore, Md.; Edw. L. Rieha, constructing engineer in charge, Baltimore, Md.

W. Va., Parkersburg.—Batson Oil Co., capital \$25,000, incptd. by C. E. Batson, E. W. Crooks, F. G. Davis and others.

#### ICE AND COLD-STORAGE PLANTS

Ala., Birmingham.—Birmingham Mineral Waters Co., W. S. Heaton, Prest., 414 N. 25th St., will install refrigerating plant. (See Miscellaneous Enterprises.)

Ala., Citronelle.—Citronelle Public Service Corp. Edw. P. Corey, Prest., will install 6 to 8-ton ice machine. (See Electric Plants and Machinery Wanted.)

Ala., Tuscaloosa.—People's Ice & Coal Co. organized with C. R. Rouse, Prest.; Harrison Kennedy, V.-P.; O. D. Perry, Secy.-Treas.; will have plans prepared for ice plant.

Ark., Leslie.—Co-operative Canning & Storage Co. incptd. by Ed Mays and others; will build cold-storage plant. (See Canning and Packing Plants.)

Fla., Detroit.—Detroit Ice, Light & Power Co., capital \$25,000, organized with F. W. Symmes, Prest.; M. G. Tracy, V.-P.; C. F. Keep, Secy.-Treas.; will build ice, power and electric-light plant. (Lately noted.)

Fla., Miami.—Miami Bottling Works, H. B. Graham, Secy., will erect 20x40 ft. addition to building and install 10-ton ice plant; plants at Miami and Homestead. (Lately noted, under Miscellaneous Factories, as to enlarge plant and to reorganize with \$25,000 capital.)

Fla., Oviedo.—M. M. Smith, V.-P. Bank of Oviedo, is interested in securing establishment of ice and electric-light plant. (See Machinery Wanted.)

Fla., Winter Park.—Winter Park Refrigerating Co., H. A. Ward and H. E. Cole, officials, will establish plant with 10-ton tank ice-making capacity and cold-storage room for precooling 14 cars citrus fruit; erect 55x65-ft. ice plant and 60x70-ft. cold-storage buildings; cost \$10,000; machinery cost \$12,000; building and machinery contracts let. (Lately noted contemplated by Fruit Growers' Assn.)

Md., Baltimore.—Knickerbocker Ice Co., Geo. Miller, Prest., Charles St. and Mt. Royal Ave., is also considering oil engines, and especially gas producers with gas engines, in connection with rehabilitation of plant previously noted purchased; lately noted as considering steam and electricity. (See Machinery Wanted.)

Md., Edgemont.—John A. Nicodemus contemplates establishing cold-storage plant to store 2000 bbls. apples; also install plant at or near Waynesboro, Pa., to store 10,000 bbls. apples.

Mo., Hopkins.—D. A. Dalbey of Grant City, Mo., will install ice plant. (See Electric Plants.)

Tex., Freeport.—Freeport Sulphur Co. contemplates installing ice plant.

Va., Staunton.—Jas. Rothwell, Martinsburg, W. Va., contemplates building cold-storage plant.

W. Va., Charles Town.—C. L. Robinson Ice & Cold-Storage Corp. (main office, Winchester, Va.) will erect addition to cold-storage plant; 100x120 ft.; 5 stories; fireproof; brick; concrete floors; capacity 50,000 bbls.; brick work begun; day labor; cost \$50,000.

W. Va., Montgomery.—B. S. Hastings will remodel and equip city jail as cold-storage plant.

#### IRON AND STEEL PLANTS

W. Va., Wheeling—Iron Furnaces, Steel Plant.—Wheeling Steel & Iron Co. and Wheeling Sheet & Tin Plate Co. completed arrangements lately outlined; Wheeling Steel & Iron Co. increased capital stock from \$5,000,000 to \$7,500,000; plans extensive improvements, additional construction, installation of new machinery, etc.; elected I. M. Scott, Prest.; F. W. Henderson, Chrmn. Executive Com. (Recently noted.)

#### LAND DEVELOPMENTS

Ala., Bessemer.—Shady Lake Park Co., capital stock \$5000, incptd.; W. A. Simmons, Prest.-Secy.; W. H. Porter, V.-P. and Treas.

Ala., Birmingham.—Ellenen City Land Co., Felix I. Tarrant, Prest.-Treas. (lately noted incptd.), capital stock \$3000), will develop 152

acres (4 mi. from Birmingham) on which rock quarry will soon be opened.

Ala., Burnsville.—Selma Red Lands Co., Calvin Young, Prest., 1006 Water Ave., Selma, Ala., will develop 1012 acres near Selma for farming; erect farm houses; cost \$5000; work will be let locally. (Lately noted incptd., \$10,000 capital.)

Ark., Portland.—Hollywood Farms Co., capital \$30,000, incptd.; L. F. Ottosy, Prest.; R. J. Guthrie, Secy.

Ala., Theodore.—Frank J. Bohan, 613 New Bank of Commerce Bldg., St. Louis, Mo., will cultivate 440 acres in Satsuma oranges; cost of improvements \$80,000. (Lately noted.)

Ala., Tuscaloosa.—R. P. Powell will improve 43 acres of land for club purposes; erect clubhouse, construct golf links and tennis courts; cost of improvements, \$20,000 to \$30,000; select landscape architect in about 30 days. (Lately noted.)

Mo., Cassville.—R. E. Bruner, Independence, Mo., is reported to plat about 60 acres and develop residential section at Roaring River Spring; also build dam 25 ft. high to cover 20 acres land for bathing, fishing and boating.

Mo., Kansas City.—Missouri Hills Realty Co., capital \$300,000, incptd. by W. T. Kemper, C. S. Keith and W. T. Grant.

Mo., St. Charles.—City voted \$90,000 bonds for park; contemplates purchasing old St. Charles county fair grounds and improving

S. C., Sumter.—Hampton Avenue Development Co., capital stock \$10,000, incptd.; E. H. Rhame, Prest.; H. Harby, V.-P.; Chas. L. Cuttino, Secy.-Treas.

S. C., Union.—City let contract McCrady Bros. & Cheves, Laurens, S. C. (and Box 176, Union, at present), to survey and beautify public park and superintend improvements on main streets; park to contain swimming pool, ball ground, etc.; 7 acres. (Lately noted.)

Tex., Brownsville.—Piper Plantation Co., capital stock \$10,000, incptd. by Jas. A. Browne, A. A. Browne and S. P. Browne.

Tex., Dallas.—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust and Savings Bank Bldg., has \$185,000 available to expend in development of 85-acre tract; construct walks and gutters to cost \$25,000; sewers, \$40,000; paving and grading, \$50,000; water-works and gas mains and railway. (See Road and Street Work and Sewers.)

Tex., San Antonio.—Matthew Cartwright Land & Improvement Co., capital stock \$100,000, incptd. by Matthew Cartwright, Lon D. Cartwright and Lane Taylor.

W. Va., Morgantown.—Magnolia Orchard Co., capital \$50,000, incptd. by F. C. Bishop, S. S. Deusenberry, Geo. F. Miller and others.

#### LUMBER MANUFACTURING

Ark., Pine Bluff.—McGehee-Smith Lumber Co. is rebuilding portion of plant reported burned; completion within 30 days; full equipment for electrically-operated plant ordered.

Ky., Jenkins.—Polley & Justice, Pikeville, Ky., purchased John H. Adlington timber tract on Kentucky River; will install band mill; construct 3 mi. narrow-gauge railroad.

La., Ball.—Sweet Home Lumber Co. will rebuild sawmill, office and lumber yards reported burned at estimated loss \$30,000.

La., De Quincy.—Powell Lumber Co., W. P. Weber, Prest., Lake Charles, La., will not build lately-noted sawmill at present; construction in about one year; no definite plans.

La., New Orleans.—Edward L. Davis Lumber Co., capital \$100,000, incptd.

Miss., Dreyfus.—Brookhaven Lumber & Mfg. Co., M. Dreyfus, Prest., Hattiesburg, Miss., advises as follows relative to new kilns: Construction begun July 13; completion Aug. 10; two rooms, 21x104 ft. each; brick kilns \$5500; T. P. Crymes Construction Co., Hattiesburg. (Previously noted.)

Miss., Moss Point.—Phoenix Planing Mill Co. (W. H. McInnis and Jesse W. Thompson) will operate plant lately noted purchased; plant equipped; will not enlarge; daily capacity 10,000 ft. dressed pine lumber.

N. C., Oriental.—Sam B. Rancom will install band-saw mill; daily capacity 35,000 ft.; also build dry-kilns with capacity 35,000 ft.

Okl., Hoffman.—Morgan Lumber Co., capital \$10,000, incptd. by H. W. Crows, E. A. Morgan and V. V. Morgan, all of Tulsa, and others.

Okl., Oklahoma City.—M. M. Bowers Lumber Co., capital stock \$10,000, incptd. by M. Bowers, Ethel K. Bowers and E. A. Pillsbury.

#### METAL-WORKING PLANTS

Md., Cambridge—Cans.—Phillips Can Co. (Levi B. and Albanus Phillips and W. Grason Winterbottom) completed plans to establish can factory; daily capacity 250,000 cans.

#### MINING

Ala., Birmingham—Rock Quarry.—Felix I. Tarrant, Prest., Ellenen City Land Co., states rock quarry will be developed on his company's property, 4 mi. from Birmingham. (See Land Developments.)

Fla., Milldale—Phosphate.—Dutton Phosphate Co. engaged Savannah Engineering & Construction Co., Savannah, to design and supervise construction of phosphate drying plant.

Mo., Joplin—Lead and Zinc.—Haymaker Mining Co. will build concentrating plant in Hattieville mining district.

Mo., Joplin—Lead and Zinc.—Snow-Morgan Mining Co., capital \$10,000, incptd. by T. D. Morgan, O. S. Snow and L. M. McGuire.

Mo., Moberly—Stone.—White Stone Co., capital \$10,000, incptd. by A. G. Taubert, J. B. Holman and C. L. Edwards.

N. C., Hemp—Gold.—El Oro Mining Co., capital \$300,000, incptd. by Paul Gerhardt of Hemp, Henry H. Green, Ashboro, N. C., and others.

Tex., Landa—Sand and Gravel.—Hatch Sand & Gravel Co., 208 Gunter Bldg., San Antonio, Tex., incptd., capital stock \$10,000; H. J. Hatch, Prest.; C. B. Hatch, Champagne, Ill., V.-P.; C. B. Hatch, Jr., Treas.; develop 12 acres; daily capacity 600 yds. gravel.

Tex., Mexia—Sulphur.—W. W. Johnson, care of Commercial Hotel, is interested in probable sulphur development. (See Machinery Wanted.)

Tex., San Antonio—Sand and Gravel.—Hatch Sand & Gravel Co., lately noted incorporated, will operate at Landa. (See Tex., Landa.)

Va., Glen Wilton—Iron.—Circle Ore Co., capital \$100,000, incptd.; Jas. A. Green, Prest.; Wm. L. Turner, Secy.-Treas., both of Cincinnati, O.

#### MISCELLANEOUS CONSTRUCTION

La., New Orleans—Filling, etc.—Port Commissioners let contract Louisiana Contracting Co., Baton Rouge, at \$160,115.40 for filling and \$10,000 for clearing site on which Commissioners will build warehouse system for which \$3,000,000 bonds have been issued. (See Warehouses, under Buildings Proposed.)

La., Shreveport—Levee Paving.—Caddo Levee Dist. let contract Miller Engineering Co., Little Rock, Ark., for about 60,000 sq. yds. reinforced paving or facing; Frank M. Kerr, Chrmn., Board State Engrs., 213 New Orleans Bldg., New Orleans.

La., Shreveport—Levees.—Board of Commissioners, Caddo Levee Dist., J. M. Sentell, Prest., receives bids until Aug. 5 to construct following reaches in Caddo parish, Red River, right bank: Red Bayou Reach, length to be protected 4000 ft.; Cairo Reach, 3500 ft.; Lucas Reach, 4000 ft.; Campo Bello Reach, 3500 ft. (See Machinery Wanted.)

Md., Baltimore—Dredging.—Sanford & Brooks Co., 24 Commerce St., Baltimore, is lowest bidder to dredge 190,000 cu. yds. material from Broad Creek, on Eastern Shore of Maryland; Lansing H. Beach, Col., Engrs., U. S. Engr. Office, 309 Custom-house, Baltimore. (Call for bids lately noted.)

Md., Cambridge—Canal.—Dorchester County Comrs. will construct canal to connect main waterways and provide inland water navigation; canal will connect Little Blackwater River with Great Choptank River through Cambridge harbor and provide inland waterway from Eastern Shore of Virginia through Tangier Sound and Fishin' Bay to mouth of Great Blackwater River, which connects with Little Blackwater River; through this canal and Cambridge harbor, down Choptank River to Thigman's Island Narrows, through Poplar Island Narrows and Eastern Bay to Chester River through Kent Island Narrows; 1½ mi. to be cut through solid land; 3 mi. at head of Little Blackwater River, mostly mud; to be dredged; Legislature authorized \$60,000 bond issue.

Miss., Hattiesburg—Wood Reduction.—Hattiesburg Wood Reduction Co. increased capital stock from \$100,000 to \$125,000; will enlarge refining department.

Mo., St. Louis—Publishing.—Miller Publishing Co., capital \$4500, incptd. by Clayton P. Miller, F. S. Harrick and A. J. Miller.

N. C., Chimney Rock—Transportation.—Chimney Rock Transportation Co., authorized capital \$100,000, incptd. by John T. Patrick, J. B. Freeman and D. F. Morrow.

N. C., Edenton—Steam Laundry.—L. W. Holloman, Box 202, will install steam laundry. (See Machinery Wanted.)

Engineers now preparing plans for construction terminal to accommodate loading one ship at a time; require 9 months to 1 year to complete work; understood to have purchased land, including 400 ft. water frontage, on Cooper River, and completed arrangements for construction of large pier, affording shippers on Southern facilities for transshipping coal at Charleston for export trade. Fairfax Harrison, Prest., is reported as having stated his company proposes large expenditure to place railway, from Appalachian coal fields to Charleston, into proper shape for coal transportation and to complete Charleston terminals. (Stonega Coal & Coke Co., Stonega, Va., D. B. Wentz, Prest., Philadelphia, Pa., was noted in March as planning to construct extensive coal terminals, but not then ready to announce details; it has sold its Charleston property to Southern Ry. Co.)

Tenn., Chattanooga—Boardwalk.—Mountain Land Co. is reported to expend \$5000 to construct boardwalk about 1 mi. long on Signal Mountain from Burnt Cabin Spring along Middle Creek to Signal Point.

Tenn., Dyersburg—Levee.—Committee composed of W. A. Fowlkes, Jr., and others, will raise and widen Pond Creek Levee, 3 mi. from Dyersburg; 2500 sq. yds.; bids opened July 28.

Tex., Houston—Docks.—Houston Dock & Development Co., capital stock \$50,000, incorporated by H. R. Cullen, J. H. Hill and Geo. H. McCormick.

#### MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Printing.—American Printing Co., capital stock \$7000, incptd.; Hubbard Stamps, Prest.; Paul F. Watkins, V.-P.; M. L. Fitch, Treas.; H. Whitehead, Secy.

Ala., Birmingham—Contracting.—Swift Construction Co., capital stock \$4000, incptd.; Ellsworth Swift, Prest.-Treas.; R. K. Swift, V.-P.; F. M. Lowe, Secy.

Ala., Birmingham—Mineral Water.—Birmingham Mineral Waters Co., W. S. Heaton, Prest., 414 N. 25th St., will enlarge plant by installation of refrigerating plant for handling and storing of limes and eggs for soda fountain trade. (Lately noted incptd. with \$5000 capital stock.)

Ark., Mena—Construction.—Century Construction Co., capital \$100,000, incptd.; Geo. D. Thayer, Prest.; J. W. Bradley, V.-P.; Minor Pipkin, Secy.-Treas.; will engineer and construct railroads, electric-lighting plants, etc.

Fla., Pensacola—State Board of Health (Dr. Kennedy, Pensacola, and others) will build \$20,000 laboratory.

Fla., West Palm Beach—Fish.—Atlantic Fish Co., capital stock \$50,000, incptd.; Chas. A. Kennedy, Prest.; Annie Baker, V.-P.; Carrie M. Kennedy, Secy.-Treas.

Ga., Augusta—Engineering.—Southern Engineering Co. will be incptd. by Albert H. Marsh of St. Petersburg, Fla., and others to engage in municipal engineering.

Ga., Savannah—Fish.—Ocean, Lake & River Fish Co., capital \$10,000, incptd. by H. B. Hodges, Harry Garfunkel and A. H. King.

Ky., Covington—Lithographing.—Donaldson Lithographing Co. is having plans prepared by B. T. Wisenall, First National Bank Bldg., Cincinnati, O., to erect addition to lithographing plant; 4 stories; reinforced concrete; fireproof; cost \$50,000.

Ky., Louisville—Laundry.—Progress Laundry Co. will erect laundry at 716-720 W. Broadway. (Lately noted incptd. with \$30,000 by Adolph A. Myers and others.)

La., Baton Rouge—Publishing.—Southern Farmer Publishing Co., capital \$50,000, incorporated.

La., Donaldsonville—Contracting.—Keller Contracting Co., capital stock \$25,000, incptd.

La., Slidell—Transportation.—Gulf Coast Transportation Co., capital \$100,000, organized to transport material by barges from different railroads in vicinity of Lake Pontchartrain to Gulfport, Pascagoula, Mobile, New Orleans and other Gulf ports.

Miss., Hattiesburg—Wood Reduction.—Hattiesburg Wood Reduction Co. increased capital stock from \$100,000 to \$125,000; will enlarge refining department.

Mo., Reathganized—Publishing.—Miller Publishing Co., capital \$4500, incptd. by Clayton P. Miller, F. S. Harrick and A. J. Miller.

N. C., Chimney Rock—Transportation.—Chimney Rock Transportation Co., authorized capital \$100,000, incptd. by John T. Patrick, J. B. Freeman and D. F. Morrow.

N. C., Venetian—Steam Laundry.—L. W. Holloman, Box 202, will install steam laundry. (See Machinery Wanted.)

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## MANUFACTURERS RECORD.

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N. C., Greensboro—Ditching.—Sink Railroad Ditching Co., capital \$22,000, incptd. by H. F. Sink, R. R. King and R. R. King, Jr.

Tex., Bonham—Crematory.—City voted \$500 bonds to build crematory. Address The Mayor.

Tex., Galveston—Marine Ways.—H. Hammon leased site on Pelican Spit, opposite 23d St., 150 ft. in width along harbor line and waterfront and 300 ft. northerly and southerly; plans to erect marine ways and necessary buildings in connection, including machine shops, lumber shed, etc.

Tex., Houston—Steamboat Transportation.—D. W. Ryan Towboat Co., capital stock \$50,000, incptd. by D. W. Ryan, C. R. Minor and John Charles Harris.

Tex., Port Arthur—Fire-alarm System.—City voted \$10,000 bonds to construct fire-alarm system. Address The Mayor.

Va., Roanoke—Engineering.—Southern Engineering Co., capital \$25,000, incptd.; R. A. Flaggatt, Prest.; R. H. Willis, V.-P.; H. M. Flaggatt, Secy.-Treas.

Va., Roanoke—Incinerator.—City let contract Decarie Incinerating Co., Minneapolis, Minn., at \$1,350 to build incinerator; building of steel and brick; 37x42 ft.; concrete approach 280 ft. long; reinforced concrete chimney 5 ft. square and 125 ft. high; incinerator proper is 6 ft. wide, 15 ft. long and 8 ft. deep; 555 pipes; capacity, 50 tons garbage; J. C. Woodward of Decarie Incinerator Co. will supervise construction.

## MISCELLANEOUS FACTORIES

Ala., Gadsden—Tombstones, etc.—Gadsden Monumental Co., F. M. Morris, Prest., will build plant in East Gadsden.

Ala., Opelika—Overalls.—L. T. Wimberly, Louchapoka, Ala., let contract Opelika Lumber Co. to erect building for Palmer Overall Factory; 2 stories; brick; 25x90 ft.

Ark., Argenta—Ice-cream, etc.—Crystal Ice-Cream Co., I. O. Runyan, Mgr., will establish plant at 1215 E. Washington Ave. to mfre. ice-cream and sherberts; capacity, 90 gals. per hr.

Fla., Jacksonville—Naval Stores.—Florida Naval Stores & Mfg. Co., capital \$10,000, incptd.; H. E. Pritchett, Prest.; E. M. Parker, V.-P.; T. J. Hammill, Secy.-Treas.

Fla., Pensacola—Excelsior.—Pensacola Excelsior Co. will install additional machinery and double capacity of plant; present daily capacity 1 carload.

Fla., Tallahassee—Baking Powder, etc.—Leon Packing Co., C. C. Lever, Supt., Box 490, will install machinery to mfre. baking powder, flavoring extracts, prepared mustard and other grocers' specialties. (See Machinery Wanted.)

Ky., Louisville—Candy.—Ben Levy Candy Co., capital \$50,000, incptd. by Ben Levy, Norman J. Levy, Robt. Allen and Homer C. McLellan.

Ky., Louisville—Chemicals.—Louisville Chemical Co., capital \$10,000, incptd. by B. F. Gregory, L. M. Rice, Jr., and J. S. McElroy, Jr.

Ky., Louisville—Washers.—Twin Mfg. Co. organized; C. K. Crawford, Prest.; H. J. Graham, V.-P.; Lucas Moore, Secy.-Treas.; B. H. Wilson, Mgr.; will lease building and mfre. washers. (Lately noted incptd., \$50,000 capital.)

La., Lake Charles—Fences.—Hodge Fence Co. let contract to build plant.

La., Slidell—Shipbuilding and Repairing.—Slidell Drydock & Shipbuilding Co. organized company with \$50,000 capital stock and acquired shipbuilding interests of Salmen Brick & Lumber Co.; contemplates improvements; constructing drydock to accommodate vessel 250 ft. long and 50 ft. wide.

Md., Baltimore—Clothing.—United States Woolen Mills Co., 227 W. Fayette St., engaged Louis Levi, Philadelphia, Pa., to prepare plans for building to be erected at 511-517 W. Pratt St.; 7 stories; 77,000 sq. ft. floor space; brick and reinforced concrete construction; estimated cost \$150,000. (Lately noted.)

Miss., West—Creamery.—West Co-operative Creamery Co. organized with L. S. Rogers, Prest.; R. A. Cross, V.-P.; will establish dairy and creamery.

Mo., Carthage—Shoes.—Wm. Kaut, C. F. Reath and J. I. Adams of St. Louis organized company with \$50,000 capital and will establish shoe factory; Business Men's League will erect building for plant.

Mo., Columbia—Cholera Serum.—J. G. Evans Construction Co., Mexico, Mo., has contract at \$12,895 to build cholera-serum laboratory at University of Missouri.

Mo., Kansas City—Marble.—American Venetian Marble Co., capital \$5000, incptd.

by Lester S. Parker, Ben Harrelson and Pete Francesconi.

Mo., St. Louis—Chemicals, Soap, etc.—Acme Sales Co., capital stock \$3000, incptd. by Leslie D. Stuart, Arthur L. Eddy and Richard J. Fricke.

Mo., St. Louis—Cloaks and Suits.—Rosen Cloak & Suit Co., capital stock \$5000, incptd. by Harry Rosen, Morris Melnick, Sam Spigle and Solomon Casen.

Mo., St. Louis—Bakery.—American Bakery Co. will erect bakery at 914-920 Julia St.; 2 stories; cost \$7000; Contr., Wm. Meyer.

Mo., St. Joseph—Spring Wheels.—National Spring Wheel Co. incptd. by W. L. Mann, W. P. Justice, E. J. Kearby and others; contemplates building plant to mfre. metal spring wheel for use on motor cars; reported cost of building and site \$100,000.

Mo., Webb City—Bakery.—L. J. Stevenson let contract to Maret & Anthony, Joplin, Mo., to erect building for bakery; 88x30 ft.; brick; cut-stone trimmings; tar and gravel roof; cost \$4350.

N. C., Raleigh—Bottling.—Gin Gera Bottling Co. of North Carolina, capital \$100,000, incptd., to build plant; W. T. Old, Prest., Elizabeth City, N. C.; J. M. Darden, V.-P., Suffolk, Va.

Okl., Tulsa—Chemical Compounds.—Southwestern Chemical Co., 210-211 Drew Bldg., will build factory for patented chemical compounds.

S. C., Greenville—Beds, Mattresses, etc.—Greenville Mattress & Spring Bed Mfg. Co. (O. B. Van Wyck of Anderson) will establish plant; occupy old freight depot.

Tenn., Dayton—Bottling.—Coca-Cola Bottling Works, capital stock \$3000, incptd. by F. A. Noll, R. B. Cooke, R. A. Wardlaw and others.

Tex., Dallas—Hats and Caps.—H. Tucker Co., H. Tucker, Prest., Kansas City, Mo., will establish hat and cap factory; leased space at 216 Commerce St.; purchased machinery.

Tex., Fort Worth—Trousers, etc.—Miller Mfg. Co. increased capital stock from \$100,000 to \$150,000.

Tex., San Antonio—Talking Machines.—San Antonio Talking Machine Co., capital stock \$10,000, incptd. by Joe W. Maxwell, Sam H. Cox, Jr., and H. E. Lasseter.

Va., Alexandria—Cider and Vinegar.—Virginia Fruit Product Co., capital \$25,000, incptd.; John D. Vickers, Prest., Philadelphia, Pa.; R. H. Standing, Secy.-Treas., Alexandria.

Va., Richmond—Safety Devices.—Sprague Safety Control & Signal Corp. chartered to mfre. electrical appliances and safety devices for operation of electric and steam cars; Sam Ethan Allen, Prest.; Oscar E. Carson, V.-P., both of New York, and Ernest V. Filippi, Secy.-Treas., Richmond.

Va., St. Paul—Bottling.—St. Paul Gin-Gera Bottling Works, capital \$25,000, incptd.; A. Handy, Prest.; J. M. Dickenson, Secy.-Treas.

W. Va., Charleston—Drilling Jars.—Sparks Drilling Jar Co., Kanawha Valley Bank Bldg., will hold meeting Aug. 10 to consider increase in capital stock from \$40,000 to \$100,000.

W. Va., Huntington—Syrup and Sugar.—American Syrup Co., Hinton, W. Va., incptd.; capital \$11,000; W. L. Fredeking, Prest.; C. C. Coulter, V.-P. and Mgr.; B. F. Dunlap, Secy.-Treas.; install sugar and syrup evaporators, bark crushers and general equipment for bottling and packing product; mfre. maple flavored syrup and sugar.

W. Va., MacDonald—Bottling and Ice-cream.—Loop Creek Bottling & Ice-Cream Co., capital \$25,000, incptd. by Alex. McNabb, J. H. Pirring, F. A. Hummel and others.

W. Va., Morgantown—Flexstone.—Capital Flexstone Co. organized; Edw. F. Kellie, Prest., 300 Hartman Bldg., Columbus, O.; Karl G. Snyder, V.-P.; A. E. Kellie, Secy.-Treas.; will mfre. flexstone, substitute for cement; daily capacity 50 tons; let contract to Geo. C. Joiliffe, Morgantown, to erect fireproof building; 50x150 ft.; cost \$3000; Marriott, Allen & Harris, Archts., Columbus, O.; cost of machinery, electrically operated, \$5000. (Lately noted incptd., \$50,000 capital.)

W. Va., Parkersburg—Clothing.—National Woolen Mills will add machinery costing \$5000 to \$6000, increasing weekly capacity from 1000 to 1200 suits clothing; has placed contracts.

## MOTORS AND GARAGES

Fla., Titusville—Garage.—Seebles Bros. let contract to J. E. Easterly, Titusville, to

erect garage; 40x70 ft.; fireproof; Carey's roofing; cost \$3500.

La., New Orleans—Automobile Plant.—Southern Automobile Mfg. & Supply Co. (previously noted organized, capital stock \$100,000, to build automobile works), leased offices 110 Hibernia Bank Bldg.; filed charter; officers include J. Bart Davis, Prest.; J. P. Simmons, V.-P.; John Merkl, Jr., Secy.-Treas.; location of plant not decided; considering city of New Orleans, also St. Bernard parish.

Mo., St. Louis—Garage.—Pickett Realty Co., Elizabeth Pickel, Prest., will erect automobile sales building at 3331-3333 Locust St.; 2 stories; brick; 50x135 ft.; front mainly of glass; the floors; cost \$25,000; contractor, H. O. Hirsch; structure will be occupied by Frye Motor Car Co.

Tenn., Dyersburg—Garage.—C. E. Crook, Newport, Ark., will erect garage; 40x100 ft.; brick.

Tex., Houston—Automobiles.—Emmert Machine & Auto Co., capital stock \$5100, incptd. by Gus Emmert, Emil Emmert and C. C. Watson.

Va., Richmond—Automobiles.—Overland Motor Co., capital \$20,000, incptd.; D. P. Browder, Prest.; O. C. Granger, Secy.-Treas.

W. Va., Beckley—Garage.—T. E. Bibb let contract to L. F. Crosier, Beckley, to erect garage and automobile repair shop; 36x80 ft.; concrete and brick; security gravel roof; cost \$5000.

## RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Fla., Palatka.—Ocala Northern R. R., W. B. Denham, Gen. Mgr., Ocala, is reported to build repair shops; owns waterfront property and is reported contemplating improving for docks, warehouses and factory sites.

La., Jonesville—Louisiana & Arkansas Ry., F. W. Green, Gen. Mgr., Stamps, Ark., purchased 7 acres as site for repair shops, oil-houses, cleaning-rooms, etc.

## ROAD AND STREET WORK

Ala., Ensley.—City will pave street from Ensley Highlands to business section of Ensley.

Ala., Gadsden.—City will pave Forest Ave. from Bellenger Al. to Tent St., and Chestnut St. from 8th to 9th; \$11,000 bonds authorized for former and \$4000 for latter; Chas. L. Marsh, City Engr.

Ala., Jasper.—Walker county will grade from 500 to 800 mi. roads; \$212,000 available; S. G. Conner, member Board Commrs.; Chas. M. Sartain, Judge of Probate. (\$250,000 bonds lately noted voted.)

Ala., Montgomery.—State Highway Dept. let contract Nixon-Smith Construction Co., Prattville, at \$6542 to gravel about 3 mi. State-aid road.

Ark., Lonoke.—Lonoke County Commrs. let contract T. H. Bunch Co., Little Rock, at \$29,505 to construct 11 mi. macadam road, including grading, culverts, hauling, macadamizing, etc., in Dist. No. 7; Hugh R. Carter, State Highway Engr., engineer for district; Jake Gates, Secy. Dist. Commrs. (Call for bids lately noted.)

Ark., Star City.—Lincoln County Commrs. rejected bids for 22 mi. macadam or gravel and rock or gravel roads in Dist. No. 2; district will be reorganized and new bids invited in about 90 days; Jake Gates, Secy. Dist. Commrs. (Call for bids lately noted.)

Ark., Texarkana.—Improvement Dist. No. 18 will construct 8000 sq. yds. concrete pavement; C. K. Faison, Chrmn. Comm., receives bids until Aug. 1. (See Machinery Wanted.)

Fla., Fernandina.—Nassau county will clear and grade various roads; bids until Aug. 12; J. W. Keen, Chrmn. Commrs. (See Machinery Wanted.)

Fla., Fort Meade.—City votes Aug. 21 on \$25,000 bonds to pave streets. Address The Mayor.

Fla., Miami.—Dade County Commrs. let contract Rogers & Son to construct road from Webb and Dupont Corner south.

Fla., Miami.—City will extend paving and sewers to suburbs; invited bids until Aug. 20; materials to include asphalt, creosoted blocks, bitulithic, concrete or brick; 55,000 sq. yds. pavement; B. H. Klyce, Engr.

Fla., Tampa.—Hillsboro county will improve following roads: Tampa-Plant City Rd., 128,000 sq. yds. brick pavement, width 15 ft., 154,294 lin. ft. granite curb; Harney-Thonotosassa Rd., 46,500 sq. yds. brick pavement, width 9 ft., 93,000 lin. ft. wood curb; Riverview Rd., 52,800 sq. yds. brick pavement, width 9 ft., 105,600 lin. ft. wood curb; Port Tampa Rd., 25,000 sq. yds. brick pave-

ment, width 15 ft., 30,100 lin. ft. wood curb; bids until Aug. 6; Jas. Riddle, County Road Engr.; W. P. Culbreath, Clerk County Commissioners; lately noted. (See Machinery Wanted.)

Fla., West Palm Beach.—Palm Beach county will build and hard-surface Swinton Ave. extension, Atlantic Ave. extension and South Rd. at Delray, Road and Bridge Dist. No. 2; bids until Aug. 4; R. H. Rousseau, Chrmn. County Commrs. (See Machinery Wanted.)

Ga., Dawson.—City has plans by J. B. McCrary Co., Third National Bank Bldg., Atlanta, Ga., to pave Main and Lee Sts.; asphalt recommended; estimated cost of grading, paving, curbing and sidewalks, \$58,293.4; F. M. McNulty, Mayor.

Ga., Macon.—Bibb County Commrs. have received legislative authority to issue \$1,000,000 bonds for roads.

Ky., Louisville.—City will construct sidewalks on Roberta Ave., Market and other streets with vitrified block; bids until Aug. 5; Roger G. McGrath, Secy. Board of Public Works. (See Machinery Wanted.)

Ky., Louisville.—Jefferson County Fiscal Court let contract Hoff Co. to build experimental ½-mi. concrete highway on Bardstown Rd. from Doup's Point to city limits; width 20 ft.; estimated cost \$4000; Wm. E. Hutchins, Consult. Engr.

Ky., Nicholasville.—City will pave Main St., depot to S. Cross St., with asphalt, 4500 sq. yds.; bids until Aug. 1; I. M. Corbin, Engr., Lexington, Ky.; W. L. Steele, Mayor. (See Machinery Wanted.)

La., New Orleans.—City will surface with Tarvia both roadways of St. Claude Ave. from Montegut to Delery Sts.; bids until Aug. 3; A. G. Ricks, Commr. (See Machinery Wanted.)

Md., Baltimore.—City will grade, curb and pave with sheet asphalt 23d St. from Charles to St. Paul St., 24th St. from St. Paul St. to Guilford Ave. and Westwood Ave. from Thomas to Whitmore Ave., Contract No. 136; about 4900 sq. yds.; bids until Aug. 5; Eugene E. Grauman, Prest. Commrs. for Opening Streets. (See Machinery Wanted.)

Md., Baltimore.—City will grade, curb and pave with sheet asphalt and vitrified brick, all on concrete base, portions of Eager, Madison, Monument, Mulberry, Division, Hamilton, Mosher and Tyson Sts., Linden Ave. and Brexton Alley, Contract No. 93; 40,150 sq. yds. sheet asphalt and 4810 sq. yds. vitrified brick; bids until Aug. 5; R. Keith Compton, Chrmn. Paving Com. and Consult. Engr. (See Machinery Wanted.)

Md., Easton.—City let contract McGuire Construction Co., Norfolk, Va., to construct 23,000 yds. pavement; asphalt concrete, Toledo specifications; \$40,000 available; Kastenhuber & Anderson, Engrs. (Bids previously noted.)

Md., Salisbury.—City will improve streets; 1700 lin. ft. combined concrete curb and gutter on W. Railroad Ave., 220 lin. ft. on Wilson St., 3800 lin. ft. on S. Division St., 4800 lin. ft. on Mill st.; also construct drainage; bids until Aug. 3; P. S. Shockley, Engr.; Jehu T. Parsons, Clerk. (See Sewer Construction and Machinery Wanted.)

Miss., Macon.—Dist. No. 2, Noxubee county, will grade and sand-clay Paulette Rd. from termination of Rock Rd. to Paulette; John A. Tyson, Chancery Clerk, receives bids until Aug. 4; J. L. Ormsby and others, Commrs. of Dist. (See Machinery Wanted.)

Miss., Vicksburg.—Warren County Supvs. plan to gravel road from Vicksburg to site of proposed bridge at Edwards. (See Bridges, Culverts, Viaducts, Miss., Edwards.)

Mo., St. Joseph.—J. H. Barnes, Park Engr., will let contract about Sept. 1 to extend boulevard system to northwest; 44,000 cu. yds. excavation; cost \$11,000.

N. C., Asheville.—Buncombe County Commissioners ordered construction of road in Leicester township from Sandy Mush to intersection with Bear Creek Rd.; length 1 mi.; J. E. Martin, Leicester Township Road Supvr.

N. C., Elizabeth City.—City let contract Geo. W. Switzer at about \$10,000 to pave Main St. from end of present paving to new passenger station.

N. C., Franklin.—Road Com. of Franklin Township let contract Wright-Johnston Construction Co., Birmingham, Ala., to grade roads; invites bids for macadamizing; H. B. Havelly, Engr., Monroe, N. C., prepared plans.

N. C., Greensboro.—City let contract Robt. G. Lassiter and Jas. Ordway to pave N. Davie and Church Sts. and Summit Ave.; cost \$35,000 to \$40,000.

N. C., Greensboro.—City voted \$100,000 bonds to pave streets; property owners to pay one-half of cost, making total expenditure \$200,000. Address The Mayor. (Lately noted.)

N. C., Kinston.—City engaged Gilbert C. White, Consult. Engr., Charlotte, N. C., to supervise street paving, extension of sewer system and improvement of electric-light plant; \$100,000 bonds voted; F. I. Fulton, Mayor. (Lately noted.)

N. C., Lillington.—Lillington and Little River townships of Harnett county voted \$20,000 bond issues, respectively, to construct roads; Hector's Creek township voted \$10,000 bonds; Black River township (lately noted) voted \$25,000 bonds. Address County Commissioners.

N. C., Marshall.—Madison County Highway Com. let contract Patton Bros., Bluff City, Tenn., at \$34,454 to grade 9.3 mi., 3 sections (6, 7 and 8), county road; rejected bids on section 5; J. B. Clingman, County Road Engr. (Bids on 4 sections lately noted.)

N. C., Snow Hill.—Greene County Commsr. let contract Johnson, Porter & Peck to construct roads in Olds and Ormonds townships and Hookerton Road Dist.; estimated cost \$50,000.

N. C., Southport.—Town Creek township of Brunswick county votes Aug. 18 on \$10,000 bonds to construct roads. Address County Commsr.

N. C., Southport.—Northwest township of Brunswick county voted bonds to construct roads. Address County Commsr.

S. C., Union.—City let contract McCrady Bros. & Cheves, Laurens, S. C., to supervise improvements on main streets. (See Land Development.)

Tenn., Clarksville.—Montgomery county will construct 10,000 cu. yds. macadam surfacing and 55,000 cu. yds. excavation; bids until Aug. 7; D. T. Foust, Engr., Clarksville. (See Machinery Wanted.)

Tenn., Jackson.—City will pave College St. from Market to Royal with bitulithic on concrete base; also Chester St., Church to Royal, with bitulithic on gravel base; J. L. Williams, City Engr.

Tenn., Lexington.—Henderson county votes Aug. 6 on \$150,000 bonds to construct roads. Address County Commsr. (Lately noted.)

Tenn., Park City, R. Knoxville.—City, Jno. M. Dailey, Mayor, will construct about 1.8 mi. sheet asphalt, concrete base; estimated cost \$80,000; date of opening bids not set; L. F. Pratt, Chrmn. Street Comm.

Tex., Dallas.—City let contract S. P. Bewick at about \$30,000 to construct 90,000 sq. ft. cement sidewalks and 27,000 sq. ft. concrete gutter in Southern Methodist University addition; Engrs., Myers & Noyes. (Lately noted.)

Tex., Dallas.—City will pave portions of Washington and Carroll Aves., Lamar, Crowley, Jackson, Race, Hawkins, Hall, Peak, Broom and Bryan Sts.; materials to include asphalt macadam, bitulithic, Uvalde rock asphalt, Westrumite asphalt, creosoted pine blocks, Bermudez bituminous concrete (asphaltic concrete), concrete curb, concrete gutter and combination concrete curb and gutter; bids until Aug. 3; J. B. Winslett, City Secy. (See Machinery Wanted.)

Tex., Dallas.—City Commsr. invite bids until Aug. 3 to pave following streets: Jackson, Pearl to Preston, creosoted pine blocks, bitulithic, Uvalde rock asphalt; Bryan, St. Joseph to Munger Blvd., bitulithic, creosoted pine blocks; Broom, Lamar to Laws, bitulithic, Uvalde rock asphalt; Race, Elm to Main, asphalt macadam, bitulithic, Uvalde rock asphalt, Westrumite asphalt, Bermudez bituminous concrete; Washington, San Jacinto to Ross, bitulithic, Uvalde rock asphalt; Carroll, Swiss to Rieger, Bermudez bituminous concrete, Westrumite asphalt, bitulithic, Uvalde rock asphalt; Hall, Ross to Swiss, bitulithic, Uvalde rock asphalt; Hall, Knight to Douglas, bitulithic, Uvalde rock asphalt; Hawkins, Commerce to Bryan, creosoted pine blocks, bitulithic; Lamar, Pacific to McKinney, bitulithic, creosoted pine blocks; Crowley, Elm to Commerce, bitulithic, creosoted pine blocks, Uvalde rock asphalt; J. M. Preston, City Engr.

Tex., Dallas.—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust and Savings Bank Bldg., let contract to S. P. Bewick, 603 Sunter Bldg., Dallas, to construct walks and gutters in University addition; cost \$25,000; Myers & Noyes, Engrs., 403 Juniper Bldg., Dallas; will call for bids in next 30 days to construct 14,000 sq. yds. concrete pavement; cost \$50,000; lately noted. (See Machinery Wanted.)

Tex., Denton.—Road Dist. No. 2, Denton county, defeated \$300,000 bonds to construct roads.

Tex., El Paso.—El Paso County Commsr. will construct asphalt-macadam road from Ysleta to Quadrilla via Socorro and San Elizario; estimated cost, \$100,000.

Tex., Fort Bliss.—Government will construct roads, walks, gutters and drains; Capt. Wm. E. Hunt, Depot Quartermaster, El Paso, receives bids until Aug. 13. (See Machinery Wanted.)

Tex., Houston.—City will grade and pave Webster and Avondale Aves.; consider following materials: Asphaltic concrete, sheet asphaltic, bitulithic, vertical fiber brick (asphalt filler), Uvalde rock asphalt, and 3-in. wood block; bids until Aug. 3; Ben Campbell, Mayor. (See Machinery Wanted.)

Tex., Huntsville.—Huntsville Road Dist. of Walker county will construct system of roads, bridges and culverts; bids opened July 28; Engr., J. W. Maxcy, 803 Chronicle Bldg., Houston; A. T. Randolph, County Clerk.

Tex., Kaufman.—City let contract to Western Paving Co., Oklahoma City, Okla., to construct about 12,000 sq. yds. vitrolithic street pavement; amount available, \$22,000; Chas. Chapel, Engr., Kaufman. (Lately noted as letting contract to R. S. Stubbs.)

Tex., Victoria.—Dist. No. 1, Victoria county, votes Aug. 14 on \$40,000 bonds to construct gravel road from Victoria through Mission Valley. Address County Commsr.

Va., North Richmond, P. O. at Richmond.—Town will grade and gravel streets, place curbs and gutters and construct sewers; bids until July 28; Saville & Claiborne, Engrs., Railway & Power Co. Bldg., Richmond; W. S. Pettit, Mayor. (See Machinery Wanted.)

Va., Petersburg.—Board of Aldermen adopted ordinance providing for \$80,000 bonds to improve streets. Address The Mayor.

Va., Pulaski.—City votes Aug. 22 on \$80,000 bonds to improve streets. Address The Mayor. (Lately noted.)

Va., Richmond.—City let contract Atlantic Bitulithic Co., Richmond, to pave Porter and 12th Sts. with asphaltic concrete; about 5500 sq. yds.

Va., Richmond.—City is considering \$500,000 bond issue to improve streets. Chas. E. Bolling, City Engr.

Va., Williamson.—City will construct 50,000 sq. yds. brick, bituminous-macadam and concrete pavement; 1000 lin. ft. curbing and 5000 lin. ft. sewers; bids until Aug. 10; John S. Hall, Recorder; N. H. Mannakee, City Engr.; lately noted as voting \$150,000 bonds for paving, etc. (See Machinery Wanted.)

#### SEWER CONSTRUCTION

Ala., Flora.—City voted \$20,000 bonds to extend sewer and water systems. Address The Mayor. (Lately noted.)

Ala., Gadsden.—City let contract Morgan & Co. at \$14,367 to construct sewers in West Gadsden and other sections of city.

D. C., Washington.—Commsr. Dist. of Columbia, 509 District Bldg., receive bids until Aug. 3 to construct 10,000 lin. ft. pipe and concrete sewer 10 in. to 4 ft. 6 in. diam. (See Machinery Wanted.)

Fla., Fort Meade.—City votes Aug. 21 on \$7500 bonds to improve and extend sewer system and water-works. Address The Mayor. (Lately noted.)

Fla., Miami.—City will extend sewers to suburbs; B. H. Klyce, Engr. (See Road and Street Work.)

Fla., New Smyrna.—City contemplates constructing sewer system. Address The Mayor.

Fla., Palmetto.—City, T. S. Pollard, Clerk, will construct proposed sewers; bids on materials until Aug. 2; J. B. McCrary Co., 1408 Third National Bank Bldg., Atlanta, Ga. (See Water-Works and Machinery Wanted.)

Fla., Pensacola.—City contemplates expending \$15,000 to repair sewer on DeVilliers St. Address The Mayor.

Ga., Lithonia.—City, A. J. McGahee, Mayor (lately noted to vote Aug. 15 on \$35,000 bonds for sewers and water-works), engaged J. B. McCrary Co., Atlanta, Ga., as engineer. (See Water-Works.)

Ia., New Orleans.—City let contract W. M. Wren at \$114,517 to construct lined and covered canal on Lowerline and Leonidas Sts., Contract 65-D; also let contract Wm. J. Kane at \$27,659.30 to construct lined and covered canals on Nashville Ave., Robertson, Delord-Willor Sts., contract 66-D; Martin Behrman, Mayor.

Ia., Shreveport.—City, Wm. G. Van Lear, Auditor, will vote Aug. 20 on lately-noted \$1,200,000 bonds to purchase and extend or construct sewer system and water-works.

Md., Hancock.—Town votes Aug. 4 on \$30,

000 bonds to construct sewer system and water-works. Address The Burgess.

Md., Salisbury.—City will construct sewers as follows: 200 lin. ft. storm sewer, 2 manholes and 6 inlets on Wilson St.; 2 manholes and 6 inlets on W. Railroad Ave.; 1800 lin. ft. sewer, 7 manholes and 19 inlets on S. Division St.; 1200 ft. storm sewer, 4 manholes and 7 inlets on Mill St.; bids until Aug. 3; P. S. Shockley, Engr.; Jehu T. Parsons, Clerk. (See Road and Street Work and Machinery Wanted.)

Md., Hurlock.—City voted \$45,000 bonds for sewer system and water-works. Address The Mayor.

Mo., St. Joseph.—Board of Public Works let contract John Marnell to construct sewers in Dist. No. 123.

Mo., St. Louis.—City will open bids Aug. 5 to construct first section Mill Creek Joint Dist. sewer, and Aug. 7 to construct second section and Steins St. Joint Dist. sewer and branches; Board of Public Improvements lately noted as having tentative plans by W. W. Horner, Prin. Asst. Engr., and Leeland Chivvis, Asst. Engr. (See Machinery Wanted.)

N. C., Durham.—City will build sewage-disposal plant, consisting of Imhoff tank, sand filter covering about 2 acres and 1 mi. 24-in. street-cotta pipe line; Gilbert C. White, consulting engineer, Charlotte, N. C.; bids until Aug. 10; lately noted. (See Machinery Wanted.)

N. C., Kinston.—City engaged Gilbert C. White, Consult. Engr., Charlotte, N. C., to supervise extension of sewer system, improvements to electric-light plant and street paving; \$100,000 bonds voted; F. I. Fulton, Mayor. (Lately noted.)

S. C., Columbia.—Epworth Orphanage, W. B. Wharton, Supt., will install sewerage system; has about 300 children.

S. C., Manning.—City voted \$10,000 bonds to construct sewer system. Address The Mayor. (Lately noted.)

S. C., Walterboro.—City voted \$12,000 bonds to construct sewer system. Address The Mayor. (Lately noted.)

S. C., Winnsboro.—City, C. A. Robinson, Mayor, will vote Aug. 4 on \$100,000 bonds for sewer, water and electrical improvements. (Lately noted.)

Tex., Brenham.—City voted \$30,000 bonds to improve sewer system and water-works. Address The Mayor.

Tex., Dallas.—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust and Savings Bank Bldg., will construct 18-in. and 15-in. sewer mains; cost \$25,000; bids asked in next 10 days; amount of sewer work involved \$40,000; Myers & Noyes, engineers, 403 Juniper Bldg., Dallas. (See Machinery Wanted.)

Tex., San Antonio.—City, Fred Fries, Clerk, asks bids until Sept. 7 to construct sanitary outfall sewer 72 in. in diam., about 15,000 ft. long; plans at office City Engr.; lately noted. (See Machinery Wanted.)

Tex., San Antonio.—City let following contracts to construct storm and sanitary sewers: Eugene Campbell, Waco, \$19,000; Bailey Reeder & Co., Mobile, Ala., \$17,000; Wm. G. Schwirter Co., San Antonio, \$24,500; sewers include 25,557 lin. ft. 36 to 76 in. reinforced concrete, monolithic concrete, vitrified liners and vitrified segmental block storm sewers, and 36,545 lin. ft. 15 to 55 in. sanitary sewers. (Lately noted.)

Va., North Richmond, P. O. at Richmond.—Town will construct sewers, place curbs and gutters and grade and gravel streets; bids until July 28; Saville & Claiborne, Engrs., Railway & Power Bldg., Richmond; W. E. Pettit, Mayor. (See Machinery Wanted.)

Va., San Antonio.—City contemplates constructing water-works. Address The Mayor. (Lately noted.)

Fla., Fort Meade.—City votes Aug. 21 on \$7500 bonds to improve and extend water-works and sewer system. Address The Mayor. (Lately noted.)

Fla., New Smyrna.—City contemplates constructing water-works. Address The Mayor.

Fla., Delray.—City, A. F. Miller, Mayor, will construct electric-light and water-works; bonds issue \$20,000. (Previously noted.)

Fla., Marianna.—City votes Oct. 20 on \$56,000 bonds to construct water-works and electric-light plant. Paul Carter, Mayor.

Fla., Palmetto.—City, T. S. Pollard, Clerk, will construct water-works and sewers; asks bids until Aug. 2 on materials, including pumps, pipe, brick, sand, cement, stone, yarn, etc.; J. B. McCrary Co., Engrs., 1408 Third National Bank Bldg., Atlanta, Ga. (See Machinery Wanted.)

Ga., Columbus.—City purchased properties of Columbus Water Supply Co. for \$325,000; contemplates building reservoir with capacity of 5,000,000 gals. and settling basin with capacity of about 50,000,000 gals.; \$450,000 bonds voted; W. C. Campbell, City Engr. (Previously noted.)

Ga., Lithonia.—City, A. J. McGahee, Mayor (lately noted to vote Aug. 15 on \$35,000 bonds for water-works and sewers), engaged J. B. McCrary Co., Atlanta, Ga., as engineer; asks prices on electric machinery and compressor. (See Machinery Wanted.)

Ia., Shreveport.—City, Wm. G. Van Lear, Auditor, will vote Aug. 20 on lately-noted \$1,200,000 bonds to purchase and extend or construct water-works and sewerage systems.

Md., Greensboro.—City let contract E. L. Jones & Co., Dover, Del., at \$15,475 to construct water-works; 17x30-ft. brick building;

Tenn., Estill Springs.—Estill Springs Telephone Co. organized; R. C. Byrom, Pres.; E. E. Lucas, V.-P.; J. T. Lucas, Secy.; J. P. Tyner, Treas.

Va., Otter View, P. O. Huddleston.—Bedford & Pittsylvania Mutual Telephone Co., capital \$5000, incptd.; R. A. Bennett, Pres.; O. H. Graves, Secy.; both of Huddleston.

#### TEXTILE MILLS

Ark., Little Rock—Cotton Goods.—A. P. Pfeifer, New Brunswick, N. J., interested in plan to build cotton mill; reported to invest \$300,000.

Ga., Rome—Cotton Duck.—Anchor Duck Mills increased authorized capital stock from \$250,000 to \$600,000.

Ga., Winder—Colored Cotton Fabrics.—Barrow County Cotton Mills (lately noted incptd., capital stock \$125,000, by Lee S. Radford and others) is reorganization of Winder Cotton Mills, now operated on lease.

N. C., Salisbury—Cotton Goods.—Jameck Cotton Mills, authorized capital stock \$100,000, incptd. by M. L. Jackson, W. A. McCanless and J. C. McCanless.

Okla., Sand Springs—Cotton and Linen Cloth.—Inez Mfg. Co., authorized capital \$2,500,000, chartered with Geo. R. Salisbury Prest., care of The Gables, Lake Winona, Pa., to erect cotton and linen cloth mill. Mr. Salisbury wires Manufacturers Record: "Buildings to be Fenestra structural steel, costing \$250,000; 100,000 spindles, 2500 looms, 320 cards, etc." Reports state plans contemplate following structures: 2-story, 450x140 ft.; 4-story, 500x130 ft.; 3-story, 600x250 ft.; 1-story, 300x150 ft. (Lately noted.)

S. C., Greenville—Cotton Goods.—Dunham Mills increased capital stock from \$1,000,000 to \$1,750,000.

#### WATER-POWER DEVELOPMENTS

Ala., Florence.—N. F. Thompson, Birmingham, Ala., is reported to have arranged to purchase the Cypress Creek property of 1100 acres, with 3 water-powers, which he plans to develop.

Tex., Gonzales.—Gonzales Water Power Co., Frank S. Taylor, Scarborough Bldg., Austin, Tex., Engr., rejected bids received July 20 for construction previously-described reinforced concrete dam on Guadalupe River; new bids at office of engineer until Aug. 12. (See Machinery Wanted.)

#### WATER-WORKS

Ala., Flora.—City voted \$20,000 bonds to extend water and sewer systems. Address The Mayor. (Lately noted.)

Ark., Paragould.—Water Improvement Dist. No. 2, H. Q. Donaldson, Secy., will extend pipe lines, install hydrants and valves and erect 100,000-gal. steel tank on 100-ft. tower; bids until July 30; Rollins & Co., Engrs., 420 Midland Bldg., Kansas City, Mo.; lately noted. (See Machinery Wanted.)

Fla., Fort Meade.—City votes Aug. 21 on \$7500 bonds to improve and extend water-works and sewer system. Address The Mayor. (Lately noted.)

Fla., New Smyrna.—City contemplates constructing water-works. Address The Mayor.

Fla., Delray.—City, A. F. Miller, Mayor, will construct electric-light and water-works; bonds issue \$20,000. (Previously noted.)

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July 30, 1914.]

## MANUFACTURERS RECORD.

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2 triplex pumps, 2 oil or gas engines, 50,000-gal. tank and tower; U. T. Downing, Engr., Dover, Del.; Temple Smith, Secy. (Call for bids lately noted.)

Md., Hancock.—Town votes Aug. 4 on \$30,000 bonds to construct water-works and sewer system. Address The Burgess.

Md., Hurlock.—City voted \$45,000 bonds for water-works and sewer system. Address The Mayor.

Md., Rising Sun.—City has completed water-works; lately noted to vote Aug. 3 on water-works and electric-light-plant bonds. (See Electric Plants.)

Md., Sudbrook Park.—Public Service Com. instructed Sudbrook Park Co., 231 Courtland St., Baltimore, to install steam pump over drilled well; to increase water supply.

Mo., Palmyra.—City voted \$26,000 bonds to improve light and water plants; J. M. Sosey, Clerk. (Lately noted as voting \$32,000 bonds.)

Mo., Jamestown.—City contemplates constructing water-works; estimated cost, \$14,000. Address The Mayor.

Mo., Verona.—City is constructing concrete reservoir of 1,000,000 gals. capacity; plans and specifications by W. S. Merkle, Engr., 1006 New Bank of Commerce Bldg., St. Louis, Mo.

Mo., Springfield.—Springfield Water Co. let contract P. L. Crossman & Son, Carthage, to drill 2 wells about 2000 ft. deep. (Lately noted.)

N. C., Raleigh.—City Comms. will issue \$75,000 additional bonds to further improve water works previously reported purchased from Wake Water Co.

Okl., Enid.—City Comms. contemplate extending water-works and increasing capacity 50 per cent.; estimated cost \$300,000.

S. C., Manning.—City voted \$30,000 bonds to construct water-works; T. F. Coffey, C. R. Spratt and R. E. Harlee, Comms. (Lately noted.)

S. C., Walterboro.—City voted \$18,000 bonds for water-works. Address The Mayor. (Lately noted.)

S. C., Westminster.—City will vote on construction of water-works. Address The Mayor.

S. C., Winnsboro.—City, C. A. Robinson, Mayor, will vote Aug. 4 on \$100,000 bonds for water, sewer and electrical improvements. (Lately noted.)

Tenn., Manchester.—R. L. Wolfe advises that lately-noted improvements consist simply of new race and penstock, costing about \$250, to replace old one, and may use portable subsidiary steam or gasoline power when river is low.

Tex., Big Spring.—City will lay 7000 ft. 8-in. cast-iron water pipe and 18,500 ft. 6-in. pipe, place 42 fire plugs, etc.; lately noted. Address The Mayor. (See Machinery Wanted.)

Tex., Brenham.—City voted \$30,000 bonds to improve water-works and sewer system. Address The Mayor.

Tex., Dallas.—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust and Savings Bank Bldg., will install water mains. (See Land Developments.)

Tex., Marble Falls.—City plans to construct dam across Colorado River to supply water and power for all municipal purposes; height above water 30 ft.; estimated cost \$25,000; issue \$30,000 bond to begin construction; R. E. Johnson, Mayor.

Tex., Timpson.—City let contract to Dallas company to construct water-works; \$17,000 bonds voted; B. J. Hawthorn, Mayor. (Previously noted.)

Va., Stuart.—Town Comms. engaged J. N. Ambler, Winston-Salem, N. C., to design and construct water-works and sanitary sewer system.

W. Va., Madison.—City voted bonds to construct water-works. Address The Mayor.

W. Va., Petersburg.—City, R. W. Baker, Mayor, will install steel standpipe; bids until Aug. 10. (See Machinery Wanted.)

## WOODWORKING PLANTS

Ark., Helena—Woodwork.—Chicago Mill & Lumber Co. is reported to purchase building and equip as woodworking plant.

Ark., Horatio—Staves.—Beeson Stave Co., capital stock \$10,000, Incptd.; E. W. Beeson, Prest.

Fla., Plant City—Shingles.—Lumberton Shingle Co., capital stock \$3000, Incptd. by T. E. Scott, Lumberton, Fla.; E. T. Roux, Sr., and E. T. Roux, Jr., both of Plant City.

Ky., Blackey, P. O. Indian Bottom—Staves, etc.—Louisville Cooperage Co. pur-

chased boundary of timber lands and will install additional stave and heading mills.

Ky., Carrollton—Furniture.—Carrollton Furniture Mfg. Co. increased capital from \$125,000 to \$200,000.

Miss., Clarksdale—Hickman Wagon Works, Hickman, Ky., is reported as contemplating establishment of plant.

Tenn., Dayton—Crates, etc.—Dayton Veneer & Packing Co., capital \$15,000, Incptd. by J. H. Totten, T. W. Caudle, H. R. Thomas and others; has plans for plant to mfr. crates, barrels, etc.

Tenn., Elizabethton—Flooring, etc.—Elizabethton Flooring Co. (lately noted Incptd., capital \$30,000) organized; Jac. McBride, Prest.; Jno. L. Wade, Secy.-Treas.; R. A. Bowers, Mgr.; acquired old plant of Eureka Lumber & Mfg. Co.; doubled capacity kilns and storage sheds; will add parquetry machines; equipment purchased; improvements cost about \$6000; daily capacity, 10,000 ft. oak and maple flooring and parquetry.

Va., Christians—Insulating Pins.—R. P. Graveler & Co., Martinsville, Va., are reported to establish branch plant.

Va., Hampton—Seating.—Armstrong Seating Corp., capital \$30,000, chartered; Richard Armstrong, Prest.; M. C. Armstrong, Secy.-Treas.

Va., Salem—Sash, Doors, etc.—Willey Feed, Fuel & Supply Co., E. M. Fitzgerald, Mgr., will install woodworking plant; lay concrete floor and make other improvements to room adjoining main wareroom preparatory to installing machinery.

Va., Suffolk—Butter Plates, etc.—Virginia Mfg. Co. will rebuild plant reported burned at estimated loss of \$75,000.

## FIRE DAMAGE

Ala., Bessemer.—F. B. Buck's building was not burned as lately reported.

Ala., Dothan.—Byrd G. Farmer's residence; loss \$17,500.

Ala., Headland.—A. L. Whigham's residence at Church and Cleveland Sts.

Ala., Sardis.—D. M. Smith's residence; loss \$5000.

Ark., Black Oak.—Miller Hill's sawmill; loss about \$2000.

Ark., Mervell.—Boyd Mercantile Co.'s store; Brooks & Brassfield's store; loss \$10,000.

Ark., Pine Bluff.—McGehee-Smith Lumber Co.'s planing mill; loss \$15,000.

Ga., Columbus.—Empire Flour Mills; estimated loss \$150,000.

Ga., Haddock.—W. T. Bloodworth's residence; loss \$3000.

Ga., Rome.—J. S. Veal's residence "La Homa."

Ky., Beverly.—R. T. Word, Sr.'s, store; loss \$5000.

Ky., Callaboose.—Methodist Protestant church. Address The Pastor.

Ky., Wingo.—Bank of Wingo, postoffice, Millins Bros.' store, A. B. Byrn's store, D. H. Slaughter's store, Slaughter & Robertson's store, W. D. Jackson's building, Stark & Dodson's water plant and lumber mill, Wingo Post's plant, offices of Drs. Stanley Mullins and Mont McNeely, Tart Hotel, Crews Hotel; total loss \$100,000.

Ky., Campbellsville.—G. H. Gowdy's buildings, loss \$20,000 to \$40,000; T. E. Hoskins' store, loss \$20,000; Campbellsville Telephone Co.'s exchange, loss \$4000.

Ky., Columbus.—Sweet Home Lumber Co.'s sawmill, office and lumber yards, containing 300,000 ft. of lumber; estimated loss \$30,000.

Ky., Donaldsonville.—Sam Schonberg's bakery.

Ky., Shreveport.—Robert Roscoe's residence in Queensboro; loss \$3500.

Ky., Monroe City.—E. A. Thompson Dry Goods Co.'s store.

Ky., Springfield.—Harris Fink's residence at 302 W. Mt. Vernon St., owned by Mrs. Alice Young; loss on building about \$5000.

Ky., St. Louis.—A. P. Bohlinger Table Co.'s factory and warehouse; loss on building \$25,000.

N. C., Lexington.—Patterson Lumber Co.'s office, tramways, stables and about 2,000,000 ft. lumber; estimated loss \$30,000.

N. C., Statesville.—T. M. Stikeleather's sawmill.

N. C., Westfield.—North Milling Co.'s plant.

S. C., Chester.—John L. Douglas' 9 buildings; loss \$3000.

Tenn., Knoxville.—Ambrose S. Gaines' barn on Kingston pike; loss \$5000.

Tenn., Memphis.—A. T. Hayden's residence at 604 N. 7th St.; loss \$3000.

Tenn., Pulaski.—A. C. Reed's residence.

Tenn., Nashville.—Prewitt-Spurr Mfg. Co.'s band sawmill; estimated loss \$10,000.

Tex., Abilene.—Thos. Fagg's residence; Thos. Davidson's residence; loss \$12,000 to \$14,000.

Tex., Brownsville.—T. A. Freeman's sawmill; loss \$3000.

Tex., Dallas.—Forest Avenue Baptist Church, Rev. W. R. Covington, pastor.

Tex., Ennis.—John May estate's residence and barn; loss \$4500.

Tex., Ferris.—Buildings owned by C. E. Pratt, C. A. Weatherford, Dr. J. S. Wilson,

Wilson & Weatherford, Knights of Pythias; total loss \$35,000.

Tex., Rio Vista.—Buildings of F. R. Barton, J. A. Allen, A. N. Sandusky, Lucewell Drug Co. and Ball & Hare; total loss \$30,000.

Tex., Runge.—Runge Cotton Oil Co.'s cottonseed-oil mill and gin; estimated loss \$90,000.

Va., Suffolk.—Virginia Mfg. Co.'s main building equipped to mfr. butter plates, crates, etc.; estimated loss \$75,000.

W. Va., West Charleston, Station B, Charleston.—J. Gordon Carney's 7 cottages; loss \$4000.

BUILDING NEWS  
BUILDINGS PROPOSED

## APARTMENT-HOUSES

D. C., Washington.—J. H. de Sibour, Hibbs Bldg., is preparing plans for apartment house; 100x80 ft.; fireproof; slab roof; heating not determined; gas and electric lighting; cost \$400,000; owner's name withheld. (Lately reported.)

Fla., Miami.—W. H. Chaille will erect store and apartment building. (See Stores.)

Md., Baltimore.—Abell Building Co., 442 Equitable Bldg., will erect apartment-house on Brooks Ln.; site 40x100 ft.

Mo., St. Louis.—Eugen Koch has plans for 5 and 6-room apartment-house; cost \$7000.

Mo., St. Louis.—Chas. S. Muer will erect 2-story tenement-house at 3225-25 Ends St.; cost \$6000.

Mo., St. Louis.—E. E. Lund will erect 2 two-story tenements at 4200-04 Kossuth St.; cost \$7800; construction by owner.

Mo., St. Louis.—E. L. Moses will erect 2 two-story tenements at 3844-50 Missouri St.; cost \$10,000; construction by owner.

Mo., St. Louis.—F. J. Liebinger will erect 2-story tenement-house at 2007 Allen St.; cost \$4500; construction by owner.

Mo., St. Louis.—Henry Vanderlocht will erect store and flat. (See Stores.)

Mo., St. Louis.—Jacob Sutter will erect 5 and 6-room flat on Red Bud Ave.

Mo., St. Louis.—H. A. Schoknecht will erect 2 flats on Harris Ave. and 5 and 6-room flat on Holly Ave.; 27x48 ft. and 24x45 ft., respectively; ordinary construction; tar and gravel roof; steam heat; electric lighting; cost \$8000 to \$7000 each.

Mo., St. Louis.—Henry Hobeln will erect 2-story tenement-house at 2235 Fair St.; cost \$4800; construction by owner.

N. C., Wilmington.—C. W. Polvogt is reported erecting 9 apartments on McRae St.; brick and stucco; each to contain 5 rooms, kitchen and bath; total frontage, 178 ft.

Tenn., Knoxville.—R. C. Hobbs will erect addition to Hobbs Apartments on Market St.; cost \$6000.

Tenn., Memphis.—Peabody Improvement Co. will erect apartment-house at Peabody Ave. and McLean Blvd.; 3 stories; cost \$60,000; plans prepared.

Tex., Galveston.—G. H. Wilder and J. E. Pearce will each erect store and apartment buildings. (See Stores.)

Va., Richmond.—A. L. Henner will erect 2-story brick tenement house on Leigh St.; cost \$5070.

W. Va., Charleston.—Mrs. E. B. Dyer will erect 2-story brick flat on Quarrier St.

## ASSOCIATION AND FRATERNAL

Fla., Fort Myers.—A. F. & A. M. and W. P. Franklin are reported to erect building; 3 stories; brick; double elevator; lower floor for stores; upper floors for offices. (Previously noted.)

Fla., Kissimmee.—Mrs. L. W. Pilley will erect store and office building. (See Stores.)

Fla., Tampa.—Exchange National Bank will probably not open bids for 30 days to erect building; 2 stories; 35x85 ft.; fireproof; cost \$60,000; F. J. Kennard, Archt., Tampa. (Previously noted to open bids about July 15.)

Ga., Macon.—Fourth National Bank, J. F. Heard, Prest., will expend \$25,000 to remodel building at 3d and Cherry Sta.; plans include marble and granite work, lobby 14x5 ft.; burglar and fireproof vaults, 10 tellers' cages; Italian marble, mahogany and French plate-glass fixtures to be supplied by Geo. W. Miller Bank Fixture Co., Atlanta. (Lately noted.)

La., Shreveport.—Thos. C. Barret is reported to erect hotel and office building. (See Hotels.)

Md., Baltimore.—Louis Applefeld, 41 S. Liberty St., will have plans prepared by Kubits & Stevenson, 717 Equitable Bldg., Baltimore, for building at 51 S. Liberty St.; 12 stories; brick, concrete, iron and steel; lower floor for stores; upper floors for offices. (Previously noted.)

Miss., Clarksdale.—H. H. Hopson, W. P. Peacock and others are reported having plans prepared by Chas. O. Pfleil, Tennessee Trust Bldg., Memphis, Tenn., for bank and office building on Delta Ave.; 5 stories; 50x100 ft.; 68 offices; cost \$100,000.

S. C., Anderson.—Citizen's National Bank, J. H. Anderson, Prest.; G. W. Evans and Mrs. J. C. Marshall contemplate erecting bank and office building; 45x35 ft.; fireproof; cost \$60,000; definite arrangements not made. (Lately noted.)

S. C., Spartanburg.—First National Bank is having plans prepared by Hoggan Bros., 7 E. 44th St., New York, for bank building; 24x78 ft.; non-fireproof; cost \$40,000; definite information not available. (Lately noted.)

Tex., Albany.—Bids received by Albany National Bank until July 30 to erect 2-story bank building; plans and specifications at bank and office of C. H. Leinbach, Archt., Southwestern Bldg., Dallas.

Tex., Dallas.—Southwestern Life Insurance Co. will expend \$3000 to alter front of building at 1500 Main St.

Tex., San Antonio.—Mrs. Johanne Steves will expend \$120,000 (cost without mechanical equipment) to erect office and store building. (See Stores.)

Va., Glade Springs.—Glade Spring Bank

has plans by Clarence B. Kearfott, Bristol, Tenn., for bank building; 1 story; 30x72 ft.; fireproof; asbestos shingle or clay tile roof;

steam heat; electric wiring; cost \$8000 to \$10,000.

### CHURCHES

**Ala., Eufaula.**—First M. E. Church has plans by Sayre & Baldwin, Bleckley Bldg., Anderson, S. C., and Citizens' National Bank Bldg., Raleigh, N. C., for building; English Gothic design; cost \$25,000. (Lately noted.)

**Ark., Hazen.**—Frank M. Blasdell, Archt., Bankers' Trust Bldg., Little Rock, Ark., receives bids until Aug. 15 to erect brick and stone "St. Cyril Methodius" Church near Hazen; plans and specifications on application.

**D. C., Washington.**—Keneseth Israel congregation organized by Jacob Shappirio, 910 M St. N. W.; Louis Steerman, 2610 Woodley St. N. W., and others; will erect synagogue.

**D. C., Washington.**—Liberty Baptist congregation selected Milburn, Heister & Co., 710 14th St. N. W., Washington, to prepare plans for building; press brick; fireproof; cost \$25,000; gravel roof.

**Fla., Mulberry.**—W. P. Read, Secy. Bldg. Comm., opens bids Aug. 5 to erect building; 8x105 ft.; fireproof; galvanized shingle roof; cost \$8000 to \$10,000; cost of lighting \$350; C. I. Stacy, Archt., Toccoa, Ga. (Lately noted.)

**Fla., Sanford.**—Presbyterian church will erect building. Address The Pastor.

**Ga., Augusta.**—Adash Jusurhian Congregation, A. Silver, Chmn. Bldg. Comm., has plans by Thos. M. Campbell, 15 Johnson Bldg., Augusta, for synagogue; 40x75 ft.; brick; tin roof; hot-air heat; electric lighting; cost \$10,000; bids opened July 30.

**Ga., Macon.**—All Saints' Church will erect building at Government and Ann Sts.; cost \$35,000; Joe Stone and John A. Wetzel, associate architects, Mobile. (Previously noted.)

**Ky., Raymond.**—P. O. Fleming.—Elk Horn Mining Corp. will erect church building; cost \$20,000.

**Ky., Pikeville.**—Christian Church will erect building; 1 room; brick; concrete foundation; steam heat; cost \$5000. Address The Pastor.

**Ky., Williamsburg.**—Congregational Church, Rev. W. O. Berckman, pastor, will rebuild structure; brick; 50x60 ft.; cost \$5000; plans not made. (Lately reported burned.)

**Ky., Williamsburg.**—Congregational church will erect building. Address The Pastor.

**Md., Baltimore.**—North Baltimore German M. E. Church, Rev. C. J. Thaliss, Pastor, 1717 E. Baltimore St., has plans by Clyde N. Frix, Munsey Bldg., Baltimore, for alterations and stone addition to building, Bond St. and Lafayette Ave.; cost \$10,000; contractors estimating: E. G. Turner, Bateman Ave.; A. Knel, Jr., Bateman and Garrison Aves.; J. Henry Smith, 1426 Light St.; Cowan Bldg. Co., 106 W. Madison St.; Raymond E. Chambers, 36th St. and Roland Ave., all of Baltimore. (Lately noted.)

**Md., Chevy Chase.**—Church of The Blessed Sacrament, Rev. Thos. G. Smyth, pastor, has plans by Milburn, Heister & Co., 710 14th St. N. W., Washington, for building; contractors estimating.

**Md., Hamilton.**—Grace Baptist Church, Caroline and Preston Sts., Baltimore, Md., Rev. W. H. Baylor, pastor, 1311 N. Caroline St., Baltimore, is interested in erection of Hamilton Baptist Church at Harford Rd. and Echdale Ave.

**Mo., Kansas City.**—Vulener Anshy Sfard, A. Boxer, Prest., will erect building at Tracy Ave. and Admiral Blvd.; site 45x150 ft.

**N. C., Charlotte.**—Knox Presbyterian Church, Rev. R. E. Hough, pastor, has plans by Hook & Rogers, Charlotte, for building and Sunday-school room; 16 classrooms; tapestry brick; slate roof; steam heat; electric lighting; cost \$15,000; address proposals to O. J. Thies, 225 N. Tryon St., Charlotte. (Lately noted.)

**S. C., Florence.**—Roman Catholic Mission Church is having plans prepared by D. C. Barbot, Charleston, S. C., for church; Gothic style; cost \$40,000; Chas. A. Buchheit, Wm. H. Berry and others, Bldg. Com.

**Tex., Dallas.**—German Baptist church will erect brick veneer building; cost \$8000. Address The Pastor.

**Tex., El Paso.**—St. Patrick's Church has plans by Geo. D. Barnett, Century Bldg., St. Louis, for building; 64x132 ft.; ordinary construction; brick and steel; slate roof; low-pressure steam heat; granitoid sidewalks; cost \$65,000; date of opening bids not set. (Lately noted.)

**Tex., Fort Worth.**—W. R. Brent, Y. M. C. A. Bldg., is Chmn. of Com. to erect building for union evangelistic services; 40,000 sq. ft. floor space; rubberoid roof; cost \$3500.

**Tex., Fort Worth.**—Swedish Lutheran Society will erect building at Broadway and St. Louis Ave.; 2 stories; brick veneer; cost \$500.

**Tex., Freeport.**—Methodist church, Rev. C. E. Clark, pastor, will erect building.

**Tex., Galveston.**—Rev. O. E. Goddard and Rev. W. M. Sherrell are interested in erection of Methodist Episcopal church South at 33d St. and Ave. O 121.

**Va., Norfolk.**—Bank Street Baptist Church has plans by Rossell Edward Mitchell, Norfolk, for addition to building; 48x54 ft.; 3 stories; ordinary construction; composition roof; steam heat; electric lighting; cost \$15,000; bids received by architect until July 31.

**Va., Norfolk.**—Epworth Methodist Episcopal Church is having plans prepared by Rossell Edward Mitchell, Norfolk, for Sunday-school building; accommodations for 600; Romanesque style; 60x60 ft.; ordinary construction; tile roof; steam heat; electric lighting; cost \$25,000. (Previously noted.)

**Va., Portsmouth.**—St. Thomas Baptist Church will erect building at Highland and Elm Aves., Brighton; cost \$5000; Robt. Wilson, Moses Scott and others, Trustees. (Lately noted.)

**Va., Bluefield.**—Presbyterian church will erect building. Address The Pastor.

**Va., Richmond.**—Woodland Heights Baptist Church, Rev. R. D. White, pastor, will erect building; brick; plans not made.

### CITY AND COUNTY

**Ala., Mobile — Fieldhouse.**—City, Pat J. Lyons, Mayor, has plans by Joe Stone, Mobile, for fieldhouse in Lyons Park; shower baths, lounging-rooms, etc.

**Ark., Warren — City Hall.**—City will have plans prepared by Witt, Seibert & Co., Texarkana, Ark., for city hall; asbestos roof; hot-water heat; gas lighting; plans and construction by owner. (Lately noted.)

**D. C., Washington — Hospital.**—Engine-houses, Superintendent's Residence.—District appropriation bill includes \$40,000 for site and erection of engine-house in neighborhood of Connecticut Ave. and Grant Rd.; \$6000 residence for superintendent of Tuberculosis Hospital at 14th and Upshur Sts.; \$15,000 to prepare plans for municipal hospital at 14th and Upshur Sts. N. W.; Snowden Ashford, Municipal Archt., 1617 21st St. N. W., Washington.

**D. C., Washington — Shelters, etc.**—Dist. Commrs. opened bids to erect shelters, yards, weighmaster's office, etc.; Wm. E. Mooney, Evans Bldg., Washington, is lowest bidder at \$14,845. (Lately noted.)

**Fla., Lake Worth — Library, etc.**—Town Commrs. will erect 2-story building to contain library, fire-fighting apparatus, jail and town offices.

**Ga., Macon — Hospital.**—House of Delegates, Atlanta, passed bill authorizing Bibb county to issue \$150,000 bonds for hospital. Address County Commrs.

**Ga., West Point — City Hall, etc.**—City will erect auditorium and city hall; cost \$15,000; plans not complete; construction about Sept. 1; J. L. Johnson, Mayor. (Lately noted voting \$10,000 bonds.)

**La., New Orleans — Library.**—City rejected all bids to erect branch library; has revised plans and will receive new bids; W. J. Hardee, City Engr. (Lately noted.)

**N. C., Andrews — Library.**—City will erect \$5000 library. Address The Mayor.

**Tenn., Chattanooga — Hospital.**—Hamilton county will vote Aug. 6 on \$100,000 bonds for Erlanger Hospital. Address County Commissioners.

**Tex., Dallas — Park Building.**—Park Board will erect building in Summit Play Park; to contain rest and assembly-rooms, library, shower baths, etc.; cost \$18,000 to \$20,000.

**Tex., Houston Heights — City Hall, etc.**—City will expend \$16,000 to erect city hall, fire station and city jail; 50x68 ft.; combination construction; 5-ply tar, felt and gravel roof; A. C. Pigg, Archt., 317 Union National Bank Bldg., Houston. (Lately noted to receive bids until July 27.)

**Va., Richmond — Municipal.**—Special Council Com. elected Alfred C. Bossom, 366 5th Ave., New York, advisory architect for proposed municipal building and to assist committee in conducting competition for designs.

**W. Va., Charles Town — Jail.**—Jefferson county is considering erection of jail; plans not made; address County Commrs. (City lately noted to erect jail.)

### COURTHOUSES

**Fla., Fort Myers.**—Lee County Commrs. opened bids to erect courthouse according

to plans by Francis J. Kennard, 409 American National Bank Bldg., Tampa; F. P. Heifner, Fort Myers and Atlanta, is lowest bidder at \$74,900.12. (Lately noted.)

**Miss., Clarksdale.**—Coahoma County Commissioners are reported to expend \$20,000 to improve courthouse.

**Tenn., Erwin.**—J. W. Shepard, Knoxville, is preparing plans for extension to courthouse; 34x40 ft.; fireproof; metal roof; cost \$10,000; bids opened July 27. (E. M. Barry and others lately noted members of building committee.)

### DWELLINGS

**Ala., Birmingham.**—Acme Building & Realty Co., 216 N. 21st St., will expend \$8000 to erect one 1-story and two 2-story dwellings; patent shingle roof; furnace; day labor. (Lately noted.)

**Ark., Helena.**—Isador Rothschild opens bids about Sept. 1 to erect 7 dwellings; 5 rooms; mill construction; composition roof; hot-air heat; electric lighting; cost \$1200 each; Elsesser & Walker, Archts., Helena. (Lately noted.)

**Ark., Little Rock.**—E. D. Brady will erect 2-story brick veneer residence at 113 Fountain Ave.; cost \$5000.

**D. C., Washington.**—A. C. Moses, 916 New York Ave. N. W., has plans by A. C. Moses Construction Co., 916 New York Ave., Washington, for 5 dwellings at 3001-09 18th St. N. W.; cost \$20,000.

**D. C., Washington.**—Simon Oppenheimer, 715 14th St. N. W., has plans by Hunter & Bell, Southern Bldg., Washington, for dwelling; 6 rooms and bath; mill construction; slag roof; hot-water heat; electric lighting; construction by owner. (Lately noted.)

**Fla., Clearwater.**—Chas. Oesterle has plans by Lester Avery, Clearwater, for residence; frame; asbestos shingle roof; hot-air heat; cost \$3000; plans out for bids. (Lately noted.)

**Fla., Key West.**—W. E. Houston has plans by T. M. Bryan, Key West, for residence on White St.; 2 stories.

**Fla., Miami.**—Carl Fisher has plans by Geo. L. Pfeiffer, Lemon City, for bungalow at Aton Beach; 26x50 ft.; 1½ stories; concrete; the roof; cost \$4000.

**Fla., Miami.**—G. L. Miller will erect residence in Riverside; 2 stories; 8 rooms; frame; cost \$3000.

**Fla., Miami.**—Mathew Elser opens bids Aug. 1 to erect residence; 40x60 ft.; 2 stories; basement and roof garden; ordinary construction; concrete walls; tile and metal roof; electric lighting; construct swimming pool 30x50 ft.; cost \$24,000; lately noted. (See Machinery Wanted.)

**Fla., Miami.**—Geo. L. Pfeiffer, Archt., Lemon City, Fla., to erect dwelling and garage; former 42x62 ft.; 2 stories and attic; ordinary construction; concrete walls; tile roof; electric lighting; construct swimming pool 30x50 ft.; cost \$24,000; lately noted. (See Machinery Wanted.)

**Fla., Pensacola.**—W. W. Day has plans by Alfred & Alfred, Pensacola, for residence; 32x51 ft.; frame construction; vulcanite asphalt shingle roof; gas and electric lighting.

**Ga., Atlanta.**—Dunbar & Sewell will erect 2-story frame dwelling at 14-14 The Prado; cost \$300; day labor.

**Ga., Atlanta.**—R. F. Marion will erect dwelling at 37 E. 9th St.; cost \$3250; day labor.

**Ky., Louisville.**—H. L. Nevin will erect 4 brick-veneer dwellings in Edgeland subdivision; cost \$12,000.

**Ky., Louisville.**—Barnett Linker will erect brick dwelling at 110 W. Ormsby Ave.; cost \$6500.

**Ky., Louisville.**—J. H. Merhoff will erect 4 frame dwellings on Ashbottom Rd.; cost \$6000.

**La., New Orleans.**—Jas. E. Selfe, 1409 Prytania St., will erect dwelling for Dr. A. J. Guidry; 2 stories; 8 rooms; slate roof; hot-air heat; electric lighting; cost \$5000; plans and construction by owner. (Dr. Guidry lately noted to erect residence.)

**La., New Orleans.**—Mrs. O. Passalaqua will erect 2 double frame residences; cost \$5000.

**La., New Orleans.**—B. Cahn will erect 2-story residence; cost \$5000.

**Maryland.**—Morris E. Bang and Cora B. Bang, Lobe Bldg., Baltimore, will erect bungalow at Point Pleasant.

**Md., Baltimore.**—Chas. W. Mulligan, 209 St. Paul St., acquired site at Barclay and

27th Sts., with frontage of 179 ft., and will erect dwellings.

**Md., Baltimore.**—Jacob I. Goldstein, 422 Equitable Bldg., will erect residence on Brooks lane near Eutaw Pl.; 3 stories; 15 rooms; brick; 20x75 ft.; Stanislaus Russell, Archt., 2900 Clifton Ave., Baltimore.

**Md., Baltimore.**—Land and Loan Association of Ellicott City, Md., acquired site on Harriet Ave. between 11th and 12th Sts., 218.6 ft. frontage, and will probably erect dwellings.

**Md., Baltimore.**—Frank O. Singer, 600 Equitable Bldg., acquired site on Guilford Ave. and 27th St., 400x154 ft., and will erect dwellings.

**Md., Baltimore.**—Abraham Mendels, 224 W. Camden St., will erect residence on Lake Drive; reported to be 2½ stories; 30x62 ft.; cost, including site, \$35,000.

**Md., Baltimore.**—Eugene Greenway is having plans prepared by Edw. L. Palmer, Jr., 408 Roland Ave., Roland Park, Md., for residence at Gulford; 2½ stories; brick; slate roof; hot-water heat; electric lights; contractors estimating: Gladfelter & Chambers, 2074 Woodberry Ave.; Walter Tovell, Eutaw and McCulloch Sts.; Singer-Pentz Co., 609 Equitable Bldg.; Cowan Building Co., 106 W. Madison St., all of Baltimore; Roland Park Co., Munsey Bldg., Baltimore, and Roland Park.

**Md., Roland Park.**—John M. Gates has plans by Ellicott & Emmart, Union Trust Bldg., Baltimore, for residence on St. John's Rd.; stucco; stone foundation; contractors estimating: Gladfelter & Chambers, 2072 Woodberry Ave.; Edw. Pilert, 15 E. Fayette St.; Cowan Building Co., 106 W. Madison St.; Willard E. Harn Co., 213 N. Calvert St.; C. C. Watts, 113 W. Hamilton St.; G. Walter Tovell, Eutaw and McCulloch Sts., all of Baltimore, Md.; Roland Park Co., Munsey Bldg., Baltimore, and Roland Park.

**Md., Roland Park.**—John P. Baer, 16 Midvale road, has plans by Jas. R. Edmunds, Jr., 114 W. Franklin St., Baltimore, for residence on Midvale road; 2½ stories; frame; contractors estimating: E. G. Turner, Bateman Ave.; Raymond E. Chambers, 36th St. and Roland Ave.; J. Henry Smith, 1426 Light St., all of Baltimore, Md.; bids opened July 27.

**Mo., Kansas City.**—G. M. Baltis will erect several residences on 43d St.

**Mo., Kansas City.**—J. L. Johnston, Cash. of National Reserve Bank, will erect residence on Concord Ave.

**Mo., Kansas City.**—Jay Tschudy, 376 Washington St., has plans by Shepard, Farar & Wiser, Kansas City, for residence on W. 5th St.; mat face brick; Bedford stone trimmings; garage to accommodate 3 machines and men's quarters; construction begun.

**Mo., St. Louis.**—G. A. Sherman will erect 2-story dwelling and 1-story garage at 3333 McFee Ave.; cost \$4000.

**Mo., St. Louis.**—F. J. Krabill will erect 2-story dwelling at 5233 Devonshire St.; cost \$3000.

**Mo., St. Louis.**—Wm. Linders is having plans prepared by John C. Greulich Realty Co., St. Louis, for residence; 7 rooms; hot-water heat; hardwood floors; brick porch; cost \$6500.

**N. C., Asheville.**—F. E. Johnson will erect 6-room residence in Grove Park; cost \$4500.

**N. C., Asheville.**—Mrs. J. B. Whiteside will erect 7-room residence on Tacoma St.; cost \$3500.

**N. C., Asheville.**—Mrs. B. G. Foster will erect two 5-room residences on Hiawassee St. and Oak Park Rd.; cost \$5000.

**N. C., Winston-Salem.**—John Brown has plans by W. C. Northrup, Winston-Salem, for dwelling; 2 stories; frame and granite; 2 stories; cost \$4000 and \$5000, respectively; plans ready in about 10 and 15 days.

**S. C., Charleston.**—E. G. Henderson will erect residence and undertaking establishment at 121 Calhoun St.; cost \$5000.

**Tenn., Bristol.**—G. B. Fletcher has plans by C. B. Kearfoot, Bristol, for residence at Georgia Ave. and Spruce St.; cost \$6000.

**Tenn., Chattanooga.**—Henry A. Payne will erect 6-room cottage in North Chattanooga.

**Tenn., Chattanooga.**—Mountain Land Co. is reported to erect 10 residences in vicinity

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## MANUFACTURERS RECORD.

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of Signal Mountain and 5 cottages at Carlisle Station.

Tenn., Columbia.—F. O. Dewberry will erect residence on S. High St.

Tenn., Knoxville.—S. G. Heiskell will erect frame dwelling on Henely St.; cost \$3000.

Tenn., Memphis.—D. L. Crouch will erect residence at 1799 Carr Ave.; cost \$4000.

Tenn., Memphis.—Anna E. Carroll will erect residence at 5th St. and Looney Ave.; cost \$4000.

Tenn., Memphis.—F. H. Lee will erect residence on N. Garland Pl.; cost \$4000.

Tenn., Memphis.—J. H. Senard will erect dwelling 665 Alston Ave.; cost \$4000.

Tenn., Memphis.—P. H. Knapp will erect residence on Idlewild St.; cost \$4500.

Tenn., Memphis.—Ben Woods will erect residence at 76 N. Watkins St.; cost \$12,000.

Tenn., Memphis.—Dr. J. H. Seward will erect residence at 565 Alston Ave.; cost \$4000.

Tenn., Memphis.—P. H. Kamp will erect residence at 190 S. Idlewild St.; cost \$4750.

Tenn., Memphis.—E. F. Tobey will erect residence at 8 S. Evergreen Ave.; cost \$4200.

Tenn., Memphis.—F. K. Milton will erect residence at 1616 Peabody Ave.; cost \$5400.

Tenn., Memphis.—H. H. Shackelford will erect residence at 1907 Carr Ave.; cost \$5400.

Tenn., Memphis.—R. Watson will erect residence at 1803 Carr Ave.; cost \$5400.

Tex., Dallas.—A. R. Mitchell will erect 20-room 2-story dwelling at 5206 Victor St.; cost \$6500.

Tex., Dallas.—Geo. Weinberger will erect 6-room frame cottage at 2826 S. Boulevard; cost \$3250.

Tex., Dallas.—T. B. Adkisson will erect 6-room frame cottage at 318 S. Montclair St.; cost \$3000.

Tex., El Paso.—E. Carlson will erect brick bungalow in Mundy Heights; cost \$4000.

Tex., Fort Worth.—W. H. Murphy is reported to erect several residences.

Tex., Houston.—R. S. Hoffman will erect 6-room residence at Oxford St. and Alley; cost \$3000.

Tex., Houston.—J. R. Sturgill will erect 2-story 9-room residence at 816 W. Alabama St.; cost \$6000.

Tex., Waco.—H. M. Richey has plans by Roy E. Lane, Waco, for residence; 2 stories and basement; stucco walls; tile porch floors.

Tex., Waco.—C. L. Sanger is having plans prepared by Roy E. Lane, Waco, for residence; 2 stories, attic and basement.

Va., Arrington.—C. H. Yates, Oak Ridge, Va., is erecting dwelling; main building, 45x33 ft.; wing, 44x20 ft. (See Machinery Wanted.)

Va., Charlottesville.—Dr. Sam Chancellor will erect 2-story frame residence for Mrs. T. M. Micou; cost \$6000.

Va., Fredericksburg.—Guy T. Cross will erect residence.

Va., Norfolk.—C. C. Fitch will erect 2-story frame residence on Virginia Ave.; cost \$500; 26x40 ft.; mill construction; hot-water heat; electric lighting; plans and construction by owner; subcontracts all let.

Va., Richmond.—N. D. Wilkinson will repair brick dwelling at 1530 Floyd Ave.; cost \$3000.

Va., Charleston.—Charles Carson will soon let contract to erect 4 two-story frame residences; cost \$6000.

Va., Charleston.—Ed Haywood will erect 2-story frame residence; cost \$3000.

Va., Charleston.—E. A. Palmer will erect residence; 3 stories; brick; cost \$10,000.

Va., Charleston.—J. S. Darst and J. S. Lakin will erect 2 two-story frame dwellings on Duffy St.; cost \$6000.

Va., Charleston.—Charles Young will erect 2-story bungalow; frame; cost \$3500.

Va., Charleston.—U. B. Atkinson will erect 2-story brick-veneer residence on Edgewood Ave.; cost \$6000.

Va., Huntington.—J. Lewis Caldwell, Jr., has plans by R. L. Day, 1010 National Bank Bldg., Huntington, for dwelling.

Va., Huntington.—F. P. Swan (trustee) will erect four 7-room brick residences at 44x54 Washington Ave.; cost \$11,200.

Va., Huntington.—Mrs. S. E. Spencer will erect 8-room brick residence at 917 9th Ave.; cost \$3000.

Va., Huntington.—Sherman Roach will erect 8-room brick residence at 8th St. and 10th Ave.; cost \$4000.

Va., Parkersburg.—Geo. Welles estate will erect 5 cottages and bungalows.

W. Va., South Charleston.—Ira Sayre will erect 20 two-story frame dwellings; cost \$40,000.

W. Va., Welch.—W. C. Cook will erect residence.

## GOVERNMENT AND STATE

D. C., Washington—Pavilion.—Argentine Legation, Romulo S. Naon, Minister, 1609 New Hampshire Ave., has plans by Clark Wagaman, 1124 Connecticut Ave., Washington, for pavilion annex to legation building; 2 stories; will contain ballroom, etc.; 60x35 ft.; cost \$25,000.

D. C., Washington—Memorial.—Wm. W. Harts, executive officer, Com. on Memorial to Women of Civil War, 1729 New York Ave., receives bids until Aug. 20 to erect memorial building in square bounded by E, D, 17th and 18th Sts. N. W.; plans by Trowbridge & Livingston, 527 5th Ave., New York, call for structure 135x72 ft.; 3 stories, basement and cellar; Victoria Tennessee marble exterior supported on concrete piles; structural steel frame; interior finished in pink Tennessee, gray Tennessee and veined Vermont marble; cost \$800,000. (Lately noted.)

Ky., Fulton—Postoffice.—Treasury Dept. Oscar Wenderoth, Supervising Archt., Wash. office of Oscar Wenderoth, Supervising Archt., Washington, D. C., receives bids until Sept. 2 to construct complete (including mechanical equipment, interior lighting fixtures and approaches) postoffice; ground area, 3800 sq. ft.; 2 stories and basement; non-fireproof; stone and brick facing; composition and slate roof; drawings and specifications on application to this office or to custodian at site at discretion of Supervising Archt.

La., Jennings—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opened bids to erect postoffice; Newport Contracting & Engineering Co., Newport News, Va., is lowest bidder at \$42,500 for limestone and \$42,800 for sandstone construction; 2 stories and basement; 3800 sq. ft. ground area; non-fireproof; stone and brick facing; composition and slate roof. (Lately noted.)

S. C., Cades—Postoffice.—Cades Mercantile Co. has plans by Todd & Benson, Charleston, S. C., for postoffice and store building. (See Stores.)

Va., Front Royal—Sheds.—Quartermaster receives bids until Aug. 10 to erect 3-colt shed at Remount Depot; plans and information from W. W. Whiteside, Capt., Q. M. Corps, U. S. Army.

## HOTELS

Fla., Eustis.—Grand View Hotel, J. F. Mayer, Prop., will expend \$10,000 to erect addition to hotel; 28x68 ft.; 3 stories; mill construction; asbestos roof; steam heat; electric lighting; plans by Mr. Turnbull, Eustis; construction by owner. (Lately noted.)

Ga., Brunswick.—St. Simons Hotel Co. incptd. with \$100,000 capital stock by J. R. Bunn, T. Bunn, H. D. Bunn, all of Waycross, Ga., and B. S. Gibson, Brunswick; purchased Long Island; will erect hotel and establish resort.

Ga., Lagrange.—H. B. Park and others will remodel 4-story brick hotel; install steam heat; electric lighting; elevator; day labor. (See Machinery Wanted.)

La., Alexandria.—Rapides Hotel will expand \$50,000 for improvements; remodel older section, erect 3-story addition, etc.; provide tile floor and marble wainscoting in lobby; electric-light fixtures; electric passenger and freight elevators; cold-storage department; steam heating plant.

La., Shreveport.—Thos. C. Barret is reported having plans prepared for hotel; 4 stories; brick and reinforced concrete; 70 rooms; lower floor for offices.

Md., Hagerstown.—D. Ramocciotti is reported having plans prepared for hotel and store building; brick; marble front; 6 or 7 stories; 2 stores on first floor; cost \$100,000.

N. C., Lumberton.—Lumberton Hotel Co. opens bids July 30 to erect hotel; 90x105 ft.; cost (without mechanical equipment) \$45,000; ordinary construction; Barrett's specification roof; low-pressure steam heat; freight elevator; J. F. Leitner, Archt., Wilmington, N. C. (Lately noted.)

Tenn., Beeville.—Beeville Hotel Co. receives bids through Stephenson & Heldenfels, architects, Beeville, until Sept. 1 to erect and complete Kohler Hotel; 5 stories; 65 rooms; reinforced concrete frame and brick; contracts to be let in 6 contracts as follows: (1) General contract; (2) elevator; (3) plumbing and sewer; (4) painting; (5) electric and wiring; (6) heating. (Lately noted to cost \$45,000 without mechanical equipment.)

## MISCELLANEOUS

Ala., Montgomery—Hospital.—Sisters of Mercy will erect annex to St. Margaret's Hospital; 92x33 ft.; 10 wards; 2 diet kitchens; cost \$20,000; Fred Ausfeld, Archt., Montgomery.

Ala., Opelika—Platform, etc.—Atlantic Compres. Co., J. C. Mason, Supt., is erecting platform 100x320 ft.; about half to be covered by sheds and have 2000 bales capacity; also erecting 240-ft. shed; will provide total storage space of 12,000 bales; ordinary construction; electric lighting; cost \$4000.

Ala., Tuscaloosa—Clubhouse.—R. P. Powell will improve 43 acres for club purposes; erect clubhouse, etc.; lately noted. (See Machinery Wanted.)

D. C., Washington—Clubhouse.—Thos. W. Sidwell, 1811 I St. N. W., has plans by Gregg & Leisenring, 1320 New York Ave., Washington, to remodel building, 38x56 ft., for clubhouse for Friends School; cost \$5000. (Lately noted.)

Fla., Clearwater—Hospital.—West Coast Hospital Assn. opens bids about Oct. 1 to erect hospital; 72 ft. 8 in. by 45 ft. 3 in.; brick and stucco; built-up asphalt saturated felt asphalt roofing; heating not decided; electric lighting; hand-power elevator, about 500 lbs. capacity; cost \$12,000; Sargent Hamilton Co., Archt., Clearwater; previously noted to open bids July 1. (See Machinery Wanted.)

Fla., Gainesville—Fair.—Alachua County Fair Assn., J. B. Dimonton, Prest., Mi-canopy, Fla., will erect buildings, etc., for fair.

Fla., Live Oak—Fair.—Fair Assn. has plans by T. Z. Atkeson, Live Oak, for fair buildings; exhibition hall 80x150 ft.; live-stock building 28x12 ft.; another building 25x12 ft.; ordinary construction; galvanized-iron roof; cost \$4500; contract let July 25.

Ga., Conley—Orphanage.—Conley-Elanahan Training School and Orphanage, Miss Mattie Perry, C. W. Hatcher (Chrmn.) and others trustees, will erect several buildings and establish training school and orphanage near Conley.

Ky., Louisville—Clubhouse.—Athletic Club is being organized with \$100,000 capital stock by Priests Frazier, Brunton B. Davis and Henry M. Coons; is reported to convert Great Southern Bldg. at 5th and Walnut Sts. into clubhouse, install swimming pool 69x53 ft. and from 2 to 9 ft. deep, marble and tile lobby, etc.; plans by Mr. Davis.

Md., Baltimore—Parish-house.—St. John's Episcopal Church, Greenmount Ave. and Old York Rd., will erect parish-house according to plans by Norman E. Horn, 2819 N. Calvert St., Baltimore; stone; slate roof; steam heat; L. Schoenlein & Son, 2217 E. Baltimore St., Baltimore, are lowest bidders for construction. (Lately noted.)

Md., Bradley Hills (not a P. O.)—Clubhouse.—Montgomery Country Club has plans by J. H. deSibour, Hibbs Bldg., and Clarke Wagaman, 1124 Connecticut Ave., both of Washington, D. C., for clubhouse; 20x40 ft.; brick and frame; colonial style; steam heat; electric lights.

Mo., Kansas City—Clubhouse.—Three Arts Club, Miss Chloe Matteson, Secy. Board of Control, opens bids about Jan. 1915, to erect club boarding-house for women; 120x50 ft.; fireproof; roofing not decided; electric lighting; cost \$150,000. (Previously noted.)

N. C., Winston-Salem—Archives Building.—Moravian congregation is having plans prepared by W. C. Northrup, Winston-Salem, for archives building; 33x65 ft.; 1 story, with gallery; plans ready by Aug. 15.

Tenn., Bristol—Clubhouse.—Country Club has plans by C. B. Kefarott, Bristol, for clubhouse; 1 story and basement; ordinary construction; composition roof; steam heat; electric wiring; cost \$3000; bids opened. (Lately noted.)

S. C., Charleston—Undertaking.—E. G. Henderson will erect undertaking establishment and residence. (See Dwellings.)

Tenn., Bristol—Hospital.—Dr. H. H. Adair has plans by Geo. W. Burnett, Pyle Bldg., Bristol, for hospital; 1 story; 30x76 ft.

Tex., El Paso—Clubhouse.—Worley & Farmer will erect brick clubhouse in Marfa Addition; cost \$5500.

W. Va., Charlestown—Hospital.—Charlestown General Hospital will erect addition; 3 stories; brick.

## RAILWAY STATIONS, SHEDS, ETC.

Ala., Bessemer.—Louisville & Nashville R. R., W. H. Courtenay, Chief Engr., Louisville, Ky., and Alabama Great Southern R. R., C. Dougherty, Chief Engr., Cincinnati, are reported to erect union depot.

Ala., Phenix City.—Central of Georgia Ry. Co., C. K. Lawrence, Chief Engr., Savannah, will make alterations and additions to depot; will not erect new building as lately reported.

Tenn., Binghamton.—Louisville & Nashville R. R., W. H. Courtenay, Ch. Engr., Louisville, Ky., is reported to erect depot; frame; slate roof.

Tenn., HornsSprings.—Tennessee Central R. R. Co., H. R. Manby, Engr. M. W., Nashville, Tenn., will erect depot between HornsSprings and Hamilton Springs.

## SCHOOLS

Ala., Birmingham.—City Commission plans to erect 2 high schools.

Ala., Marion Junction.—City will erect 2-story school; cost \$3000. Address The Mayor.

Ala., Montealvo.—City voted \$16,000 bonds to erect school. J. M. Reynolds, Mayor.

Ala., Opp.—Trustees Opp School Dist., Thos. Conners, Chrmn., will expend \$13,000 to erect school; 8 classrooms and auditorium; ordinary construction; brick; metal roof; steam heat; electric lighting; Warren & Golin, Archts., Gainesville, Fla.; bids opened July 28. (Lately noted.)

Ark., Clarksville.—School Board engaged J. T. W. Jennings, Fort Smith, Ark., to prepare plans and specifications and supervise construction of \$30,000 school.

Ark., Clarksville.—Arkansas Cumberland College engaged J. T. W. Jennings, Fort Smith, Ark., to prepare plans and supervise construction of \$10,000 dormitory.

Ark., Marked Tree.—Marked Tree Special School Dist. will issue \$15,000 bonds to erect 2-story brick school to cost \$22,000; M. W. Hazel, Almeta Smith and others, School Board.

D. C., Washington.—District appropriation bill includes Parkview School at 7th and Newton Sts. N. W., cost \$132,000; purchase of site for Eastern High School at cost of \$150,000; Snowden Ashford, Municipal Archt., 1617 21st St. N. W., Washington.

Fla., Fort Lauderdale.—School Board is having plans prepared by W. C. DeGarcia, Miami, Fla., for school; cost \$55,000; plans ready in about one month. (Lately noted.)

Fla., Monticello.—S. H. Taylor, Supt. and Secy., receives bids until Aug. 20 to remodel Monticello school; plans and specifications at office of Hentz & Reid, Archts., Atlanta.

Fla., Port Richey.—Pasco County School Board, Dade City, Fla., is having plans prepared for school. (See Fla., Dade City.)

Fla., Dade City.—Pasco County School Board is having plans prepared by Willis R. Biggers, Tampa, for schools at Port Richey, Seven Springs and Anclote, and receives bids until Aug. 3 for erection.

Fla., Miami.—H. H. Mundy, Archt., 219 12th St., Miami, receives bids until Aug. 15 to erect high school on Ave. H; plans and specifications at office of Mr. Mundy.

Fla., Ocala.—Board of Public Instruction of Marion County opened bids to erect brick primary school in North Ocala, remodel and enlarge primary school on S. 3d St. and erect additional school on Howard Academy Grounds; P. D. Odell, Ocala, is lowest bidder for first two at \$5757 and \$11,734, respectively, and L. Alexander, Ocala, is lowest bidder for latter at \$7700; McIver & Mackay, Archts., Ocala. (Lately noted.)

Fla., Tampa.—Sacred Heart Church is reported to erect college; 4 stories; brick. Address The Pastor.

Fla., Tampa.—School Dist. No. 45, West Tampa, voted \$60,000 bonds for school improvements as follows: \$14,000 for addition to present school; \$14,000 building at Main St. and Willow Ave.; \$2500 school in Drew Subdivision; \$12,000 for school sites; \$13,000 refunding debt; \$2000 furniture and fixtures; Marshall Moore, County Supt. of Public Instruction. (Lately noted.)

Fla., Wimauma.—Wimauma Special School Tax Dist. receives bids until Aug. 4 to erect school; ultimately 8 rooms; only first floor to be erected at present; 2 stories; brick; red brick facing; but brick trimmings; tar and gravel roof; cost \$5000; Willis R. Biggers, Archt., Tampa. (Lately noted.)

Ga., Cordele.—Bond Com. is having plans prepared by Chns. W. Carlton, Lagrange, Ga., for school; 53x96 ft.; 2 stories; brick veneer; pitch and gravel roof; cost \$10,000; bids opened about Aug. 15. (Lately noted.)

Ga., Gainesville.—Brenau College has plans by J. Frank Moorefield, Gainesville, for Y. W. C. A. building; 50x12 ft.; ordinary construction; fireproof; cost \$25,000. (Lately noted.)

Ga., Guyon.—Atlantic Institute Trustees are having plans prepared by G. Lloyd Preacher, Augusta, for school; 2 stories; brick; cost \$12,000. (Lately noted.)

Ga., Millwood.—City voted \$3000 school bonds. Address The Mayor.

Ky., Haymond, P. O. Fleming.—Elk Horn Mining Corp. will erect school; cost \$20,000.

Ky., Lexington.—Chandler Normal School, F. J. Werking, Prin., will expend \$20,000 to erect manual training building; architect not selected; lately noted. (See Machinery Wanted.)

Ky., Louisville.—City and Lawrence county will erect high school; terra-cotta construction; bids opened July 30. Address The Mayor.

Ky., Louisville.—Sam'l. D. Jones, business director Board of Education, will receive bids until Aug. 19 to erect and furnish finished hardware for schools on Garland Ave. and Flat Lick Rd. (See Contracts Awarded, Schools.)

Ky., Louisville.—Board of Education, Sam'l. D. Jones, business director, has plans by Joseph & Joseph, Louisville, for second grade school on Preston St.; 2 stories and basement; 170x100 ft.; Bokhara red brick; stone trimmings; fireproof; tile floors in corridors; marble wainscoting at entrance; 10 classrooms, gymnasium, etc.; ventilating system. (Previously noted.)

Ky., Pineville.—City receives bids until Aug. 20 to erect high school; 18 rooms; brick; plans and specifications by R. F. Graf & Sons, Knoxville, Tenn., on file at office of J. A. Whittaker, Secy. Board of Education; construction to begin by Sept. 1.

La., Fenton.—Calcasieu Parish School Board, W. P. Arnett, Secy.-Treas., Lake Charles, La., has plans by L. C. Carter, Lake Charles, for school; 2 stories; frame; bids opened July 27.

La., Colfax.—First Ward voted tax to erect \$20,000 school at Colfax and improve Walnut Grove school. Address School Trustees.

La., Gilbert.—H. B. Womble, Chmn. Building Comm., has plans by Smith & Barthel, Monroe, La., for school; 62x36 ft.; 2 stories and basement; ordinary construction; roofing and heating not decided; cost \$16,000.

La., Rice.—Calcasieu Parish School Board, W. P. Arnett, Secy., Lake Charles, La., has plans by L. C. Carter, Lake Charles, for 2-story frame school; bids opened July 27.

La., Woodlawn.—Calcasieu Parish School Board, W. P. Arnett, Secy., Lake Charles, La., has plans by L. C. Carter, Lake Charles, for 2-story frame school; bids opened July 27.

Md., Baltimore.—City is having plans prepared by Smith & May, 801 Law Bldg., Baltimore, for addition to school; 41x66 ft.; slate roof; steam heat. (Lately noted.)

Miss., Greenville.—City is having plans prepared by R. H. Hunt, Chattanooga, Tenn., for high school; 3 stories; cost \$55,000. (Lately noted.)

Miss., Hattiesburg.—Forrest County Supervisors, Herbert Ghills, Clerk, propose to issue \$5000 Helena Consolidated School Dist. bonds to erect and equip school; also \$10,000 McLaurin Consolidated School Dist. bonds (lately noted) to erect and equip 2-story brick school.

Miss., Macon.—Salem Consolidated School Dist. votes Aug. 1 on \$3500 bonds to erect and equip school. Lynn Creek Consolidated School Dist. votes same date on \$5000 bonds to erect and equip school; U. W. Mullins, Prest. Board of Supervisors of Noxubee County.

Miss., McLaurin.—Forrest County Supr., Hattiesburg, Miss., proposes to issue \$10,000 bonds to erect and equip 2-story brick school.

Miss., Waynesboro.—School Board accepted plan by W. P. Craft, Laurel, Miss., for proposed school; 2 stories; brick.

Mo., Cameron.—W. G. Sloan, Prest. Board of Education, receives bids until Aug. 12 to erect grade and high school building; 80x100 ft.; fireproof; composition roof; vacuum steam heat; Rose & Peterson, Archts., Kansas City, Mo.; plans and specifications at office of J. Harry Hulslizer, Secy. Board.

Mo., Hornersville.—Bids received until July 28 by J. E. Rice, Secy., to erect 2-story 8-room brick school.

Mo., Moberly.—City defeated \$87,000 bond issue for schools. (Lately noted.)

Mo., Roila.—Roila School Dist. votes July 30 on \$27,500 bonds to erect school. Address Dist. School Trustees.

N. C., Asheville.—E. C. Waller, Wm. Stein man and C. A. Graves are reported to have acquired 135-acre site near Asheville; will erect school and several cottage dormitories.

N. C., Claremont.—City will erect brick school to cost \$5000. Address The Mayor.

N. C., Spray.—School Board is having plans prepared by W. C. Northrup, Wachovia Bldg., Winston-Salem, for school; 130x100 ft.; 11 rooms and auditorium; brick and wood; steam heat; plans ready Aug. 15. (Previously noted to have voted \$20,000 school tax.)

S. C., Columbia.—Trustees of School Dist. No. 16, Richland county, J. S. Moore, Chmn., will expend \$8000 to \$10,000 to erect school building; Barrett's specification roof; bids opened July 24; Geo. E. Lafaye, Archt., Columbia. (Lately noted.)

S. C., Coward.—Town will probably issue bonds to erect school to cost \$10,000. Address The Mayor.

S. C., Florence.—Florence County Commsr. will erect Woodville School; cost \$3000; Tans Bay School Trustees will erect \$4500 school.

S. C., Lake City.—Gaskins School Dist. voted \$3000 bonds to erect school near Lake City.

S. C., Mars Bluff.—Mars Bluff Consolidated School Trustees will erect \$7500 school.

Tenn., Carthage.—City voted \$10,000 bonds to erect high school; brick and concrete; metal or slate roof; probably let contract about Sept. 1.

Tenn., Columbia.—City rejected all bids to erect school; 191x160 ft.; ordinary construction; Carey roof; steam heat; Hart & Gardner, Archts., Nashville, Tenn. (Lately noted.)

Tenn., Cookeville.—Bids received until July 25 to erect brick dormitory; F. E. Collier, City Recorder.

Tenn., Gallatin.—City is erecting high school; fireproof; brick, steel and concrete. Address The Mayor.

Tenn., Jellico.—Campbell County Commsr. will erect high school in South Jellico; 2 stories; brick; cost \$10,000.

Tenn., Johnson City.—East Tennessee State Normal School, Sidney G. Gilgreath, Prest., will expend \$5000 to \$7000 to erect model school building; 60x70 ft.; ordinary brick construction; asphalt shingle roof; hot-air heat; electric lighting; D. R. Beeson, Archt., Johnson City; bids received until Aug. 4. (Lately noted.)

Tenn., Memphis.—Board of Education has plans by Jones & Furbringer to rebuild Prescott School; 12 rooms; cost \$51,000 to \$56,000; bids received for non-fireproof and fireproof construction. (Previously noted.)

Tenn., Granger.—J. F. Martinets, Granger; V. Hejl, Taylor, Tex., and O. Janek, West, Tex., are building committee for proposed Bohemian College to be erected in Granger.

Tex., Bonham.—City plans to issue \$10,000 bonds to erect school. Address The Mayor.

Tex., Dallas.—Mt. Auburn School Dist. will vote on \$10,500 bonds to erect brick school. Address Dist. School Trustees.

Tex., Gall.—Gall School Dist. No. 1 voted \$12,500 bonds to erect school. Address Dist. School Trustees.

Tex., San Antonio.—Special School Dist. 25 and 41 each voted \$20,000 bonds for schools. Address Dist. School Trustees.

Tex., Elkhart.—School Board has plans by C. C. McKim, Avea, Tex., for school; 8 rooms; semi-fireproof; tar and gravel roof; cost \$9000; bids opened and contract let July 25; address proposals to D. L. Lively, Elkhart. (Previously noted.)

Va., Alexandria.—City has plans by E. C. Dunn, City Engr., for high school; cost about \$50,000. (Previously noted.)

Va., Appomattox.—Appomattox School Board will erect \$8000 dormitory; 20 rooms; ordinary construction; slate roof; construction in 1915.

Va., Charlottesville.—Dr. Sam Chancellor will erect building for University of Virginia; brick; stone trimmings; cost \$15,000.

Va., East Radford.—Bldg. Com. of Normal School Board approved plans by C. M. Robison, Richmond, and will call for bids at once to erect first of proposed dormitories; accommodations for 54; cost \$35,000.

Va., Elkton.—Elkton School Dist. voted \$6000 bonds to erect school. Address Dist. School Trustees.

Va., Richmond.—City has plans for Nathaniel Bacon School at M and 35th Sts.; 8 rooms and auditorium; semi-fireproof; cost \$40,000; Carnel & Johnston, Archts., Richmond.

W. Va., Martinsburg.—Board of Education of Opequon Dist., Berkeley county, will erect school; brick; slate roof.

W. Va., Tunnelton.—Board of Education of Kingwood Dist., Preston county, receives

bids until Aug. 1 to excavate about 500 cu. yds. of dirt for school building, and until Aug. 28 to erect school; plans and specifications at office of Dr. B. S. Rankin, Tunnelton, and A. C. Lyons, Archt., Fairmont, W. Va.

## STORES

Ala., Birmingham.—Louis Pizitz leased Burton Hotel and will improve; increase floor space, etc. (Lately reported to cost \$15,000.)

Ala., Tuscaloosa.—T. M. Aycock will erect building to replace structure lately noted burned.

Ala., Tuscaloosa.—J. T. Kirk and J. E. Isbell have plans by Alsup & Smith, Memphis, Tenn., for store and office building; 45x100 ft.; cost \$7000 to \$8000; roofing not determined; steam heat; date of opening bids not set. (Lately noted.)

Fla., Fort Myers.—B. F. Burke, Marion, Ind., will erect brick business block.

Fla., Fort Myers.—A. F. and A. M. and W. P. Franklin are reported to erect building for stores, etc. (See Association and Fraternal.)

Fla., Kissimmee.—Mrs. L. W. Pilley will erect 2 store and office buildings; brick; frontage 52 ft.; 2 stories; red brick.

Fla., Miami.—W. H. Chaillé will erect building on 7th St. and Ave. D; 2 stories; 100x55 ft.; 5 stores with plate glass fronts; concrete; tile trimmings; exterior stuccoed white; second floor for apartments.

Fla., Palatka.—A. F. and A. M. purchased lot and will erect store, lodge and office building. (See Association and Fraternal.)

Fla., Plant City.—W. B. Herring will erect brick business building.

Fla., Tampa.—S. H. Kress & Co., 396 Broadway, New York, is reported to erect store building on Florida Ave. between Polk and Cass Sts.

Ky., Corinth.—K. of P., A. F. and A. M. and I. O. O. F. will rebuild store and lodge building. (See Association and Fraternal.)

Ky., Haymond, P. O. Fleming.—Elk Horn Mining Corp. will erect store; cost \$20,000.

Ky., Lexington.—C. E. Bond, Lawrenceburg, Ky., will install front and erect additional story to building; 100x66 ft.

Ky., Williamsburg.—J. E. Terry will rebuild store; 36x100 ft.; ordinary construction; metal roof; cost \$10,000; cost of heating plant \$600; electric lighting; architect not selected. (Lately reported burned.)

La., Lake Charles.—John Khouri receives bids until July 31 to erect 2-story brick building on Ryan St.; plans and specifications at 822 Ryan St.

Md., Baltimore.—S. R. Marowitz of Manufacturers' & Merchants' Co., 301 Phoenix Bldg., is reported to erect building at 117-19 S. Hanover St.; 6 stories; brick; site 51x100 ft.; construction by owner.

Md., Baltimore.—Louis Applefeld, 41 S. Liberty St., will have plans prepared for store and office building. (See Bank and Office.)

Md., Hagerstown.—D. Ramocciotti is reported having plans prepared for store and hotel building. (See Hotels.)

Miss., Coldwater.—A. D. Elder will erect brick store building.

Mo., St. Louis.—Henry Vanderlocht will erect store and apartment building on Manchester Ave.

N. C., Durham.—Durham—Gadsden Car Works will erect storeroom, etc. (See Bank and Office.)

Ala., Sawyersville.—W. G. Lunsford has plans by Joy-Marriott Co., Jefferson County Bank Bldg., Birmingham, for warehouse; 50x100 ft.; 1 story; reinforced concrete; heating and lighting not determined; cost \$550 to \$750. (Previously noted.)

Ga., Adrain.—Powers & Braswell will erect cotton warehouse.

Ga., Atlanta.—Southern Cotton Co., capital stock \$1,000,000, incptd. by J. C. Cooper and others; reported to erect cotton warehouse at cost of \$100,000.

Ky., Louisville.—Purified Petroleum Products Co. will erect ironclad warehouse, etc., at Floyd and G Sts.; cost \$3500.

Md., Baltimore.—I. J. Schleissner has plans by J. C. Spedden, 1640 Hanover St., Baltimore, for warehouse at 51 Sharp St.; 2 stories; brick; Consolidated Engineering Co., Calvert Bldg., Baltimore, is estimating on construction.

Tex., Dallas.—Mrs. L. Edmondston will erect 2-story ironclad warehouse; cost \$4000.

## BUILDING CONTRACTS AWARDED

### APARTMENT-HOUSES

D. C., Washington.—R. A. Velitch let contract to erect store and apartment-house. (See Stores.)

Fla., Miami.—John Seybold let contract to erect apartment and store building. (See Stores.)

July 30, 1914.]

## MANUFACTURERS RECORD.

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Fla., Mt. Dora.—J. P. Donnelly let contract to erect apartment and store building lately noted. (See Stores.)

Fla., St. Petersburg.—Mrs. M. A. Barden, College Park, Va., has plans by and let contract to B. O. Parkhurst, Box 706, St. Petersburg, to erect apartment-house; 29x68 ft.; wood frame; composition roof; hot-air furnace; cost \$6000; lately noted. (See Machinery Wanted.)

Ga., Atlanta.—A. P. Stewart let contract to C. Shelverton, Atlanta, to remodel building for apartment-house; 2 double houses; 8 apartments; cost \$3000.

Mo., Kansas City.—John M. Saunders, Commerce Trust Co.'s Bldg., let all contracts to erect apartment-house; 39x34 ft.; ordinary construction; tar and gravel roof; steam heat; gas and electric lighting; cost \$25,000. (Lately noted.)

Fla., Mt. Dora.—M. V. Simpson let contract to erect apartment and store building. (See Stores.)

Mo., St. Louis.—J. J. Connelly let contract to erect store and apartment-house. (See Stores.)

Mo., St. Louis.—Adam Reitz let contract to L. Rosen & Son, St. Louis, to erect 2-story tenement-house at 3451 Pestalozzi St.; cost \$5000.

Mo., St. Louis.—H. Wulfmeyer let contract to A. G. Stohman, St. Louis, to erect 2-story tenement-house at 3145 Magnolia St.; cost \$2000.

Mo., St. Louis.—John J. Dowling let contract to A. H. Koelling, St. Louis, to erect 2-story tenement-house at 4277-A Kennerly St.; cost \$4500.

Mo., St. Louis.—Laura Yount let contract to E. Thelemann, St. Louis, to erect two 2-story tenements at 4310-12 Oregon St.; cost \$6800.

Mo., St. Louis.—Eliza Hoppel let contract to H. Luehrmann, St. Louis, to erect 2-story tenement-house at 3455 Oregon St.; cost \$5500.

Mo., St. Louis.—F. Kitzberger let contract to A. Bins, St. Louis, to erect 2-story tenement-house at 2217 Jules St.; cost \$3500.

Mo., St. Louis.—F. E. Partsch let contract to W. Rous & Son, St. Louis, to erect 2-story tenement-house; cost \$4000.

Mo., St. Louis.—W. W. Culver Real Estate & Investment Co. will expend \$16,000 to erect apartment-house; 60x50 ft.; ordinary construction; composition roof; steam heat; electric wiring; granitoid sidewalks; contract (lately noted) let to C. Cunliff, Nauvarre Bldg., St. Louis.

W. Va., Morgantown.—Nathan Cohen let contract to Rolt, McCreery, Morgantown, to erect additional story to building at High and Fayette Sts. for apartments; 3 suites; Elmer Jacobs, Archt., Morgantown.

## ASSOCIATION AND FRATERNAL

D. C., Washington.—Masonic Temple Assn., A. W. Johnston, Secy., let contract to install ventilating system and decorate lodgeroom. (Lately noted) letting contract to remodel building.)

Tex., Corsicana.—B. P. O. E. will expend \$17,000 (cost without mechanical equipment) to erect club building; 88x52 ft.; 2 stories and basement; ordinary construction; composition roof; steam heat to cost \$1600; Field & Clarkson, Archts., Fort Worth; contract (lately noted) let to Berry & Metcalf, Corsicana.

## BANK AND OFFICE

Ala., Birmingham.—Herndon-Hetrick Engineering Co., Birmingham, has concrete contract for building to be erected by Wm. A. Walker and to be occupied by Birmingham Ry., Light & Power Co.; terra-cotta; 4 stories and basement; fireproof; cost \$75,000; Wm. C. Weston, Archt., Birmingham. (Lately noted.)

Ala., Jones Mills.—People's Bank let contract to W. E. Ward, Pineapple, Ala., to erect bank and store building; 30x10 ft.; plate-glass front; tar and gravel roof. (See Machinery Wanted.)

Ala., McCullough.—Farmers' Exchange Bank will erect building; 30x44 ft.; W. E. Ward, Contr., Pineapple, Ala.

Ark., Prescott.—Bank of Prescott let contract to Thalman & Reed, Little Rock, to remodel building; cost about \$5000.

N. C., Charlotte.—Mercantile Development Co. (E. D. Latta and J. B. Duke) let contract to erect office, store and warehouse building. (See Warehouses.)

N. C., Durham.—Fred C. Geer Co. let contract to Wells Bros. Co., Riggs Bldg., Washington, D. C., to erect office and store building; 85x175 ft.; 5 stories; brick; 4 stores on

lower floor; 90 offices above; fireproof; waterproof basements; Alfred C. Bosom, Archt., 366 5th Ave., New York; construction under supervision of Harry D. Watts, 10 Oakdale Rd., Roland Park, Md. (Previously noted.)

N. C., Durham.—First National Bank let contract to Barber & Ross, 614 11th St. N. W., Washington, D. C., for steel work on building, for which Geo. A. Fuller Co., Munsey Bldg., Washington, has general contract; heating contract let to American Machine Co., Charlotte, N. C.; Milburn, Heister & Co., Archts., 710 14th St., Washington, D. C. (Previously noted.)

S. C., Anderson.—Anderson Development Co. has plans for theater and office building; contract let. (See Theaters.)

S. C., Ellerbee.—Bank of Ellerbee let contract to W. B. Summersett to erect bank building; 22x65 ft.; ordinary construction; tin roof; cost \$4000; Urquhart & Johnson, Archts., Columbia, S. C. (Lately noted.)

## CHURCHES

Ga., Atlanta.—Unitarian church let contract to C. Shelverton, Atlanta, to erect building; brick walls; stone trimmings; slate roof; cost \$14,000.

Ga., Madison.—First M. E. Church let general contract (including plumbing) to Winder Lumber Co., Winder, Ga., at \$26,305 to erect building; heating to Eichberg Heating Co., Atlanta, at \$1150; wiring, Madison Electric Co. at \$385; art glass, Empire Glass & Decoration Co., Atlanta, at \$650; Sayre & Baldwin, Archts., Bleckley Bldg., Anderson, S. C., and Citizen's National Bank Bldg., Raleigh, N. C. (Lately noted.)

Mo., Perryville.—York Chapel congregation let contract to C. E. Klefner to erect building; brick; cost \$3500 to \$4000.

N. C., Kenly.—Kenly Presbyterian Church let contract to Mr. Crawford, Kenly, to erect building; 40x60 ft.; cost \$9000; galvanized-iron shingle roof; hot-air heat; electric lighting; C. I. Stacy, Archt., Elberton, Ga. (Lately noted.)

N. C., Lexington.—Episcopal Church let contract to W. Lee Harbin, Lexington, to erect church at Erlanger Cotton Mill; 50x80 ft.; stuccoed on wire laths.

Okla., Claremore.—First Baptist Church let contract to C. C. Clepper to erect building; 54x100 ft.; ordinary construction; tile roof; hot-air heat; cost \$25,000; Geo. Winkler, Archt., Tulsa. (Lately noted.)

Okla., Oklahoma City.—Pilgrim congregation, Rev. W. H. Burch, pastor, let contract to Reinhardt & Donovan, Oklahoma City, to enlarge building; extend east wall about 18 ft. and erect gallery; Van Slyke & Woodruff, Archts., Oklahoma Bldg., Oklahoma City. (Lately noted.)

Tex., Fort Worth.—First Christian Church let contract to Reinhardt & Donovan, Oklahoma City, to erect building; 96x166 ft.; cost \$122,000; fireproof; furnace blast system of heat to cost \$3640; electric lighting; copper, asbestos and slate roof; Van Slyke & Woodruff, Archts., 515 W. 5th St., Fort Worth. (Previously noted.)

Tex., Galveston.—West Tabernacle Church let contract to Louis Grant, 816 28th St., Galveston, to erect addition to building; 21x50 ft.; ordinary construction; galvanized shingle roof; cost \$3000; Donald McKenzie, Archt., Galveston. (Lately noted.)

Tex., Waco.—Central Presbyterian Church has plans by Roy E. Lane, Waco, for building; contract let.

## CITY AND COUNTY

Fla., Palmetto.—Library.—City let contract to Jones & O'Brien to erect library; 32x70 ft.; ordinary construction; gravel roof; fireplaces; electric lighting; cost \$10,000; Fred Kermonde, Archt. (Lately noted.)

La., Kaplan—City Hall.—City let contract to Mr. Montaigne to erect city hall; brick; A. M. Smith, Mayor.

La., New Orleans—Warehouses.—Board of Port Commrs. let contract for filling site preparatory to erecting warehouses, etc. (See Warehouses.)

La., New Orleans—Police Station and Criminal Court Building.—City let contract to John Minot, New Orleans, to erect Second Criminal Court building and Third Precinct Police Station; 2 stories; fireproof; composition roof; E. A. Christy, Archt., New Orleans. (Lately noted.)

Mo., Fayette—Library.—City let contract to Chas. I. Fisher to erect Carnegie library; cost \$9200.

S. C., Ridgeland — Jail.—Jasper County Commrs. let contract to erect courthouse and jail. (See Courthouses.)

## COURTHOUSES

Fla., Miami.—Dade County Commrs. let contract at \$17,300 to St. John's Construction Co., Miami, to erect addition to courthouse; fireproof vaults and rooms; August Gelger, Archt., Miami. (Lately noted.)

S. C., Ridgeland.—Jasper County Commrs. let contract to W. T. Hadlow Co., 510 West Blvd., Jacksonville, Fla., to erect courthouse and jail; cost \$33,500; Wm. A. Edwards, Archt., Atlanta. (Lately noted.)

## DWELLINGS

Ala., Birmingham.—Mrs. Julia P. Wittichen let contract to R. V. Labarre, Birmingham, to erect residence; 2 stories and basement; mill construction; fire-resisting shingle roof; cost \$5000; Wm. Leslie Welton, architect, Birmingham. (Lately noted.)

Ala., Woodward.—Woodward Iron Co. let contract to O'Rear & Penn, 806 20th St., Birmingham, to erect residence; 10 rooms; mill construction; cypress shingle roof; steam heat; electric lighting; cost \$8000; W. F. Warren, Archt., Birmingham.

D. C., Washington.—U. F. McCarell, 2205 Evans St. N. E., let contract to I. C. Foster to erect residence at 2014 Evans St. N. E.; cost \$3850.

D. C., Washington.—Wm. J. Dante, Hutchins Bldg., let contract to A. H. Aylor, 82 Seaton St., Washington, to erect residence; 3 stories; brick walls; wood interior; slate roof; cost \$13,000; hot-water heat to cost \$1000; electric lighting; Clarence A. Miller, Archt., 1738 Lamont St., Washington. (Lately noted as W. J. Dance.)

D. C., Washington.—C. H. Mell let contract to M. H. Bray to erect residence at 1437 Madison St. N. W.; cost \$7000; A. E. Landvoigt, Archt., 1238 G St. N. W., Washington.

Fla., Daytona Beach.—S. J. Peabody has plans by and let contract to S. H. Gove, Daytona, to erect residence; 2 stories, basement and attic; outside walls stucco; tile roof; coquina rock foundation; cost \$12,000 to \$15,000.

Fla., Gainesville.—Dr. J. C. Bishop let contract to Williams & Mann to erect two 7-room and four 5-room bungalows; ordinary construction; shingle roof; fireplaces and mantels; electric lighting; cost \$2000 each; Warren & Gohn, Archts., Gainesville. (Lately noted.)

La., New Orleans.—H. L. Hoehn let contract to G. E. & E. E. Reinmann, New Orleans, to erect 3 double 2-story residences; 67x28 ft.; slate roof; cost \$8600; G. E. Reinmann, Archt., New Orleans. (Lately noted.)

Maryland.—Chas. F. Sullivan let contract to Jos. Schamberger, 2122 E. Baltimore St., Baltimore, to erect residence on Magoffin River; 2½ stories; frame; stone foundation; slate roof; C. M. Anderson, Archt., 324 N. Charles St., Baltimore. (Lately noted.)

Md., Baltimore.—Jacob Schmulowitz, 112 N. Amity St., let contract to erect store and dwelling at 3634 Morgan Ford St.; cost \$4000.

Md., Baltimore.—Mrs. Mary Fear let contract to H. W. Thomas, 2014 Slingluff Ave., Baltimore, to erect 10 dwellings on Westwood Ave.; 2 stories; brick; 14x46 ft.; cost \$25,000; Stanislaus Russell, Archt., 2900 Clifton Ave., Baltimore.

Md., Baltimore.—Chas. P. Hershfeldt let contract to P. P. Day, 2010 W. Fayette St., Baltimore, to erect residence in Park View Terrace, northwest of Harford Rd.; 2½ stories; frame; slate roof; cost \$3600; Henry J. Tinley, Archt., 312 N. Charles St., Baltimore.

Md., Baltimore.—Ten Hills Corporation let contract to J. Henry Smith, 1426 Light St., Baltimore, to erect residence in Park View Terrace, northwest of Harford Rd.; 2½ stories; frame; slate roof; steam heat; electric lighting; cost \$15,800; general contract let to J. H. Moran, 506 N. 22d St., Richmond; contracts for brick work let to Thomas & Cross, and for mill work to Miller & Miller, both of Richmond.

W. Va., Charleston.—G. I. Barger let contract to erect 2-story dwelling at 1559 Lee St.; brick; cost \$8000.

W. Va., Charleston.—Geo. S. Laidley has plans by A. G. Higginbotham, Charleston, for 2 dwellings; 2 stories; 5 rooms each; cost \$3000; mill construction; shingle roof; all subcontracts let. (Lately noted.)

W. Va., Huntington.—J. W. Valentine let contract to A. F. Shockey, Huntington, to erect dwelling; 32x48 ft.; brick walls; tile roof; gas heat; cost \$7000; D. H. Hutchinson, Archt., Huntington; plumbing contract let to R. H. Dillsworth, Huntington, at \$425. (Lately noted.)

Mo., St. Louis.—Dwight Davis let contract to Haeseler Building & Construction Co., St. Louis, to alter dwelling; cost about \$3000.

Mo., St. Louis.—Jas. B. Dunkel let contract to E. H. Pipe Realty Co., St. Louis, to erect 2-story dwelling at 6235 Berlin St.; cost \$6700.

N. C., Asheville.—B. C. McVey, Grand Rapids, Mich., will expend \$6500 to erect residence in Kenilworth Park; shingle walls and roof; stone foundation; Smith & Carrier, Archts., Asheville; let contract to Sluder Bros., Asheville, for plumbing; general contract (lately noted) let to G. W. Wrenn & Co., Asheville.

N. C., Asheville.—Herbert D. Miles will expend \$17,000 to erect residence; brick; stone trimmings; Smith & Carrier, Archts., Asheville; subcontracts not let; general contract (lately noted) let to G. W. Wrenn & Co., Asheville.

N. C., Winston-Salem.—A. B. Bynum let contract to E. B. Newkirk to erect dwelling; 2 stories; frame; hot-air heat; cost \$4000; W. C. Northrup, Archt., Winston-Salem.

Tenn., Bristol.—K. A. Grandstaff has plans by C. B. Kearfott, Bristol, for residence on 7th St.; cost \$3000; 1½ stories; ordinary construction; metal shingle roof; hot-water heat; electric wiring; J. H. Reynolds Lumber Co., Contr., Bristol.

Tex., Freeport.—James Paterson has contract to erect residence for Mr. Barr on 2d St.

Tex., McKinney.—J. R. Gough let contract to J. R. Padgett & Son, McKinney, to erect 8 5-room bungalows.

Tex., Bay City.—Baptist Church let contract to Arthur Miller, Bay City, to erect parsonage; 2 stories.

Tex., Waco.—W. S. Rathell let contract to erect 2-story residence; Roy E. Lane, architect, Waco.

Va., Bristol.—Joe Strauss has plans by Thos. Brown, Hotel Bristol, Bristol, Tenn., for residence on Holston Ave.; brick veneer; cost \$7000; 10 rooms, with furnace-room and garage in basement; stucco; hardwood trimmings and floors; cost \$10,000.

Va., Norfolk.—Frank B. Hodgson let contract to G. F. Cox, Norfolk, to erect brick and frame residence at 40th and Holley Sts.; cost \$4500.

Va., Norfolk.—Richard Chiles let contract to L. McCloud, Norfolk, to erect 2-story frame residence; cost \$3600.

Va., Richmond.—W. T. Clarke will erect 7 2-story brick dwellings on 33d St.; 20x42 ft.; ordinary brick construction; tin roof; fireplaces; gas and electric lighting; cost \$15,800; general contract let to J. H. Moran, 506 N. 22d St., Richmond; contracts for brick work let to Thomas & Cross, and for mill work to Miller & Miller, both of Richmond.

W. Va., Charleston.—G. I. Barger let contract to erect 2-story dwelling at 1559 Lee St.; brick; cost \$8000.

W. Va., Charleston.—Geo. S. Laidley has plans by A. G. Higginbotham, Charleston, for 2 dwellings; 2 stories; 5 rooms each; cost \$3000; mill construction; shingle roof; all subcontracts let. (Lately noted.)

W. Va., Huntington.—J. W. Valentine let contract to A. F. Shockey, Huntington, to erect dwelling; 32x48 ft.; brick walls; tile roof; gas heat; cost \$7000; D. H. Hutchinson, Archt., Huntington; plumbing contract let to R. H. Dillsworth, Huntington, at \$425. (Lately noted.)

Ga., Savannah—Memorial.—Daughters of the Confederacy let contract to A. A. Artley, Savannah, to remodel Confederate Memorial Hall; 3 stories; ordinary construction; H. V. Whitcover, Archt., Savannah. (Lately noted.)

Miss., Jackson—Capitol.—Capitol Commrs. let contracts for repairs to capitol building

as follows: Hiram Hardy, general repairs to ceilings, walls and floors, \$3080; Ray Wright, roofing, \$1080; W. S. Pate, inside shades for windows, \$470; other contracts also let; total cost \$5900.

#### MISCELLANEOUS

Fla., Pensacola—Hospital.—Sisters of Charity, Emmitsburg, Md., let contract to W. A. Ray and associates, Pensacola, for excavating, concrete foundation and footings for superstructure of Pensacola Hospital; construction bids not considered, character of construction having been changed from all brick to brick and stone; plans by A. O. von Herbulis, Woodward Bldg., Birmingham, call for structure 200x186 ft.; reinforced concrete; vapor heat and steam plant; gas and electric lights; reported cost \$300,000. (Lately noted.)

Ga., Atlanta—Restaurant.—Childs Dining Hall Co., main office New York, let contract to W. D. Lewis Co., Atlanta, for interior improvements to building at 10-12 Marietta St.; cost \$35,605.

Tex., Galveston—Sheds.—Harriss-Irby Cotton Co., 709 American Insurance Bldg., let contract to Bubank & Bibrell, 203 American Insurance Bldg., Galveston, to erect cotton concentration sheds; 260x600 ft.; mill construction; corrugated-iron roof; cost \$30,000; sheet-metal contract let to Fred Hartel (lately noted as having general contract), and plumbing to R. C. Malitz, both of Galveston.

#### RAILWAY STATIONS, SHEDS, ETC.

Ala., North Birmingham—Southern Ry., B. Herman, Chief Engr., 1300 Pennsylvania Ave., Washington, D. C., let contract to T. S. Moudy & Co., Chattanooga, Tenn., to construct yard office at Finley Yard.

Fla., Hawthorn—Seaboard Air Line Ry., W. D. Fauchette, Chief Engr., Norfolk, Va., let contract to Hillier & Sperring, Jacksonville, to erect freight depot to replace burned structure.

S. C., Ninety-Six—Southern Ry., B. Herman, Chief Engr., 1300 Pennsylvania Ave., Washington, D. C., let contract to W. J. Sneed Lumber Co., Greenwood, S. C., to erect combination depot.

Tenn., Memphis—Southern Ry., B. Herman, Chief Engr., 1300 Pennsylvania Ave., Washington, D. C., let contract to E. H. Walsh Sons, Memphis, to construct office at Forrest Yard.

#### SCHOOLS

Fla., Lemon City—Board of Public Instruction, Dade county, let contract to Flemming Construction Co., Miami, Fla., to erect school and civic-center hall; 52x78 ft., with 40x75-ft. auditorium; concrete walls; ordinary construction; tile roof; electric lighting; Geo. L. Pfeiffer, Archt., Lemon City; Miami (Fla.) Electric Construction Co. has contract for electric work; lately noted. (See Machinery Wanted.)

Ky., Hickman—City let contract to W. J. Spradlin to erect Riverview School; 4 rooms; brick; cost \$400. (Lately noted.)

Ky., Louisville—Board of Education let contracts to erect school at Cypress and A Sts. as follows: Building at \$8,999 to Alfred Stuck Co.; heating and ventilating at \$12,637, F. S. Schardine & Son, Louisville; hardware at \$1650, Belknap Hardware & Mfg. Co., reinforced concrete; Ward & Glossop, Archts., Louisville; also let contracts for other improvements as follows: Harry J. Hach, plumbing in the Phyllis Wheatley school, \$2020, and plumbing at Finzer and Brandeis schools, \$271; Gustav N. Lortz, erection of boiler-house at Grayson-street school, \$1925; W. C. Gibson Co., heating and ventilating at same school, \$263; John Greiner & Son, alterations at Parkland school, \$600; Home Electric Co., electric wiring at 3 schools, \$238; Childers & Waters Co., electric wiring at 6 schools, \$516; Neal Electric Co., electric wiring at Benjamin Franklin school, \$69; Samuel D. Jones, business director of Board, will receive bids until Aug. 19 to erect and furnish finished hardware for two schools on Garland Ave. and on Flat Lick Rd.; plans and specifications for former at office of John Bacon Hutchings & Son, Archts., Columbia Bldg., Louisville, and for latter at office of Joseph & Joseph, Archts., Great Southern Bldg., Louisville.

Miss., Biloxi—City let contract to Ed. Wetzel, Biloxi, to erect proposed Pack Bay School.

Miss., Gallman—Gallman School Dist. let contract to F. P. Tillman to erect school building; 80x120 ft.; 2 stories; ordinary construction; cypress shingle roof; hot-water heat; cost \$3500; E. E. Bushby, Archt. (Lately noted.)

Mo., Columbia—University of Missouri let contract to Jas. P. Jemison, 900 Security Bldg., St. Louis, to erect laboratory for hog serum plant. (Lately noted.)

Mo., St. Louis—Board of Education let contract to Geo. Moeller & Co., St. Louis, to erect 3 open-air schools at 1532-42-50 S. Grand Ave.; 1 story; 1 room; 25x100 ft.; concrete; iron standards between doors; screened walls in summer; total cost \$24,900; also let contract to same contractors to remodel 1540 Grand Ave. for offices.

Mo., St. Louis—City will expend \$71,000 (cost without mechanical equipment) to erect 3 buildings for Industrial School for Boys at Bellefontaine Farm; 80x48 ft.; fireproof and joist construction; tile roof; contract (lately noted) let to Kremer & Voigt Construction Co., St. Louis; subcontracts let.

Mo., St. Louis—St. Louis University let contract to B. Stock, St. Louis, to alter college building; cost \$3000.

N. C., Andrews—Andrews School Dist. Trustees will expend \$20,000 to erect school; 8 classrooms and auditorium; brick walls; timber floors and partitions; roofing not decided; steam heat to cost \$2500; electric lighting; Meyer & Stillwell, Archts., Hendersonville, N. C.; contract let to J. H. Jordan, Hendersonville, on percentage basis. (Lately noted.)

N. C., Barium Springs—Bldg. Com. of Board of Regents of Barium Home let contract to Moser & Bumgarner, Hickory, N. C., to erect school; cost \$15,000.

Okla., Goodwell—Oklahoma State Board of Agriculture let contract at \$18,910 to J. W. Mann, Oklahoma City, to erect dormitory and engineering and heating plants at Goodwell Agricultural School; fireproof; J. W. Hawk, Archt., Oklahoma City. (Lately noted.)

S. C., Claussen—City let contract to erect school to cost about \$4000. Address The Mayor.

Tex., Afton—Trustees let contract to Appliance & Turvin, Roaring Springs, Tex., to erect school; 2 stories; 56x55 ft.; ordinary construction; tar and gravel roof; ordinary heaters; cost \$4500; W. J. Holloway, Archt., Roaring Springs. (Lately noted.)

Tex., Dallas—Board of Education let contract at \$31,979 to Ennison & McCord, Dallas, to erect addition to Sam Houston High School; 8 rooms; fireproof; steam heat; W. F. Nichol, Archt., Busch Bldg., Dallas. (Lately noted.)

Tex., Harrisburg—School Board let contract at \$6227 to C. K. Smith to erect annex to Harrisburg school; at \$3653 to A. Shepherd to erect another school; rejected all bids to erect Park Place, Brookline and Magnolia Park schools; district will vote on \$15,000 additional bonds for Magnolia Park school; \$50,000 available; F. S. Glover & Son, Archts., Binz Bldg., Houston. (Lately noted.)

Tex., Dallas—Western Heights Ind. School Dist. let contract to J. W. Galley, 1105 Southwestern Life Bldg., Dallas, to erect school; 12 rooms and auditorium; ordinary construction; tar and gravel roof; cost \$15,500; C. L. Leinbach, Archt., 1105 Southwestern Life Bldg., Dallas. (Lately noted.)

Tex., Houston—School Dist. No. 25 let contract to W. B. Tidwell, Houston, to erect 2 schools; cost \$3394.5 each; F. S. Glover & Son, Archts., Houston. (Lately noted.)

Tex., Waco—School Board let contract at \$35,604 to J. E. Johnson, Waco, to erect addition to high school and at \$775 to Herrick Hardware Co., Waco, for hardware; 3 stories and basement; Milton W. Scott, Archt., Waco. (Lately noted.)

Va., Emory—Emory and Henry College let contract to Jno. P. Pettyjohn & Co., Lynchburg, Va., to erect observatory and physical laboratory; 34x106 ft.; 1 story and basement; fireproof; tin roof; gas and electric wiring; Clarence B. Kearnoff, Archt., Bristol, Tenn.

Va., Petersburg—Board of Visitors of Virginia Normal and Industrial Institute let contract at \$11,950 to H. L. Driscoll, Richmond, to erect dormitory; Richard A. Munden, Archt., Petersburg; painting and large portion of plumbing to be done by students. (Lately noted.)

W. Va., Fayetteville—Board of Education of Fayetteville Dist. let contract to O'Neal Construction Co., Pax, to erect 6-room school at Pax.

W. Va., Mt. Hope—Fayetteville Dist. Board of Education, Fayetteville, W. Va., let contract to Snyder Construction Co., Mt. Hope, to erect high school; 8 rooms; 22x31 ft.; brick; steam heat; electric lights; cost \$12,000; T. H. Snyder, Archt., Mt. Hope. (Lately noted.)

#### STORES

Ala., Birmingham—Joe Ward has contract to erect two 1-story brick stores; plans by Miller & Martin, Title Guarantee Bldg., Birmingham.

Ark., Arkadelphia—F. J. Carpenter let contract to U. G. Kauffman, Arkadelphia, to erect 1-story brick business building to replace burned structure.

Ark., Arkadelphia—J. C. Wallis let contract to U. G. Kauffman, Arkadelphia, to erect 1-story brick business building to replace burned structure; cost \$4000.

D. C., Washington—F. H. Bugher let contract to Meltzler & McKay, 216 Oxford Bldg., Washington, to erect stores at 901-09 9th St. N. W.; cost \$10,065; Waddy B. Wood, Archt., 816 Connecticut Ave. N. W., Washington.

D. C., Washington—J. J. Connelly let contract to E. J. DeLacy, 64 Rhode Island Ave. N. E., Washington, to erect store and apartment-house at 301 P St. N. W.; cost \$6050; C. E. Webb, Archt.

D. C., Washington—R. A. Velich let contract to W. C. and A. N. Miller, 911 H St. N. W., Washington, to erect store and apartment-house at 299 M St. N. W.; cost \$3588; F. Meyers, Archt., Bond Bldg., Washington. (Lately noted.)

D. C., Washington—T. J. Molloy let contract to R. P. Whitty Co., Union Trust Bldg., Washington, to erect store and apartment building at 1201 K St. N. W.; cost \$6500; J. Wenig, Archt., 717 10th St., Washington.

Fla., Daytona—Bingham & Thompson let contract to E. L. Bond to erect building; 16x50 ft.; cost \$3000; fireproof; Carey's roofing. (Lately noted.)

Fla., Jacksonville—J. F. Hicks let contract to Brown Realty Co. to erect 2-story brick building.

Fla., Palatka—W. G. Tilghman let contract to Kawneer Mfg. Co., Atlanta, Ga., to repair 2 stores; 2 stories each, and brick warehouse in rear; tin roof.

Fla., Miami—John Seybold let contract to St. Johns Construction Co., Miami, to erect store and apartment building; 2 and 3 stories; 50x55 ft. and 20x42 ft.; concrete walls; ordinary construction; composition and tile roof; electric lighting; cost \$41,000; contract for electric work let to J. Lanther; plumbing, Rother Plumbing Co., both of Miami; Geo. L. Pfeiffer, Archt., Lemon City, Fla. previously noted. (See Machinery Wanted.)

Fla., Mt. Dora—J. P. Donnelly let contract to Geo. Vandervord, Mt. Dora, to erect store and apartment building; 44x100 ft.; 3 stories below, 11 housekeeping rooms above; semi-fireproof; metal or Barrett's specification roof; stoves; electric lighting; cost \$10,000. (Lately noted.)

Fla., Mt. Dora—M. V. Simpson let contract to Geo. Vandervord, Mt. Dora, to erect store and apartment building; 49x50 ft.; semi-fireproof; metal roof; stoves; electric lighting; cost \$5000.

Fla., West Palm Beach—Godwin & Bayle let contract to W. B. Savage, Lemon City, Fla., to erect building; 60x28 ft.

Fla., Winterhaven—W. J. Smith let contract to J. W. Cunningham, Winterhaven, to erect building; brick; 35x90 ft.

Ga., Atlanta—Wm. J. Davis let contract to Griffin Construction Co., Atlanta, to erect building; cost \$4000.

Ga., Columbus—Dan Joseph let contract to M. C. Barlow, Columbus, to erect one-story brick building on 10th St.; 27x80 ft.; brick; plate-glass front; metal roof; cement floor; cost \$4000; T. F. Lockwood, Archt., Murrah Bldg., Columbus.

Ga., Columbus—Jas. A. Lewis let contract to M. C. Barlow, Columbus, to erect one-story brick building on Broad St.; 30x100 ft.; reinforced concrete and brick; metal roof; electric elevator; cost \$5000; T. F. Lockwood, Archt., Murrah Bldg., Columbus.

Ga., Cordele—Mrs. L. H. Webb let contract to erect \$10,000 business building.

Ga., Manchester—Drs. T. W. and J. L. Jackson let contract to J. P. Corley Lumber Co., Manchester, to erect 1-story store building; 25x30 ft.; to be leased to J. L. Edwards. (Mr. Edwards lately noted to erect building.)

Ga., Savannah—S. Blumenthal has plans by and let contract to Woolard & Cunningham, 505 E. 22d St., Savannah, to erect store building; 60x90 ft.; ordinary construction; gravel roof; cost \$25,000. (Lately noted.)

Ga., Savannah—Miss Mary Whitley let contract to Cox & Doke at \$4800 to erect 2 store buildings; brick; 6-room dwelling will

be raised and store built under; 18x70 ft. each; 14-ft. ceiling; plate-glass and marble fronts; Geo. T. Steinacker, Archt., Savannah.

Ky., Hickman—R. H. Kirk let contract to W. J. Spradlin, Hickman, to erect building; possibly 3 stories; lower floor for stores; upper floors for offices.

Ky., Hickman—Stephen Stahr let contract to W. J. Spradlin & Son, Hickman, to erect furniture store; 66x75 ft.; cost \$4500; mill construction; Johns-Manville asbestos roof. (Lately noted.)

Ky., Lexington—F. W. Woolworth Co., New York, let contract to Williamson & Sons, Lexington, to remodel front of store on West Main St.; cost \$5000.

La., Kaplan—Meaux Bros. let contract to Mr. Montaigne to erect business building.

La., Kaplan—U. L. Vincent let contract to Mr. Montaigne to erect business building.

Md., Baltimore—Hecht Bros. & Co. let contract to Edw. Brady & Son, 1113 Cathedral St., Baltimore, to alter building at 11 N. Charles St.; cost \$4000.

Md., Baltimore—Sheppard & Meyers let contract to B. F. Bennett Bldg. Co., 123 S. Howard St., Baltimore, to alter building at 14 E. Baltimore St.; Louis Levi, Archt., Real Estate Trust Bldg., Philadelphia, Pa. (Lately noted.)

Md., Baltimore—Virginia Cramer has plans by and let contract to Horace Ford, 619 N. Fremont Ave., to alter building at 110 N. Howard St.; cost several thousand dollars.

Md., Baltimore—Jacob Schmulovitz, 112 N. Amity St., let contract to Ideal Construction Co., Law Bldg., Baltimore, to erect store and dwelling at 112-14 N. Amity St.; 2 stories; brick; 23x60 ft.; steam heat; cost \$5500; Consolidated Engineering Co., Archt., Calvert Bldg., Baltimore.

Miss., Biloxi—Caleb L. McKee, Columbus, O., is reported to have let contract to T. J. Roselli and Henry Elstetter, Biloxi, to erect building at Howard Ave. and Delaunay St.; 1 story; brick; 80x90 ft.; plate-glass front; marble base; 4 stories; cost \$10,000 to \$12,000. (Lately noted.)

Mo., St. Louis—Pickel Realty Co. let contract to H. O. Hirsch, St. Louis, to erect 2-story salesroom at 3331-33 Locust St.; cost \$16,000.

Mo., St. Louis—Mississippi Valley Trust Co. let contract to Jas. Stewart & Co., St. Louis, to underpin store at 515 Olive St.; cost \$3000.

Mo., St. Louis—E. A. Peters let contract to J. Helm, St. Louis, to erect store and tenement-house at 4051-55 Olive St.; cost \$8000.

Mo., Chaffee—E. Ehler let contract to Price & Millers, Chaffee, to erect business building; 25x100 ft.; 2 stories; pressed-brick front.

N. C., Charlotte—Mercantile Development Co. (E. D. Latta and J. B. Duke) let contract to erect store, warehouse and office building. (See Warehouses.)

N. C., Durham—Fred C. Geer Co. let contract to erect store and office building. (See Bank and Office Buildings.)

N. C., Warsaw—L. P. Best let contract to J. B. Barden, Warsaw, to erect brick store building on Main St.

Okl., Oklahoma City—S. H. Kress & Co. let contract to O. J. Parker to improve store to be occupied by Sidney L. Brock Dry Goods Co.; install sprinkler system; cost \$20,000. (Lately noted.)

Tenn., Harriman—Cook & West, Morgan St., let contract to Solomon Construction Co., Harriman, to erect store; 50x50 ft.; fireproof.

Tex., Cleburne—T. S. Camp let contract to J. A. Thomas, Cleburne, to erect business building on N. Main St.; 1 story; cost \$600.

Tex., Fort Worth—Ben Tiller let contract to Butcher & Sweeney, Fort Worth, to erect automobile salesroom; 50x85 ft.; cost \$5000; ordinary construction; gravel roof; Sanguinet & Staats, Archts., Fort Worth.

Tenn., Nashville—W. W. Dillon let all contracts to erect building. (Lately noted.)

Tex., McKinney—W. D. Smith let contract to Jim Pistole, McKinney, to erect store; 1 story; 30x30 ft.

Tex., Plainview—T. A. Johnson, Park Tex., is reported to have let contract to erect building; brick; 50x100 ft.

Tex., Waco—H. Silbert, Dawson, Tex., let contract to erect business building on Austin Ave.; Roy E. Lane, Archt., Waco.

Fla., O'Farrill—O'Farrill, 100 W. Main St., reported, has plans by and let contract to erect business building on Austin Ave.; Roy E. Lane, Archt., Waco.

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Tex., Waco.—W. A. Weathered let contract to erect business building on Austin Ave.; Roy E. Lane, Archt., Waco.

Va., Graham.—T. E. Nash let contract to Leedy & Barnett to erect store building; 30x40 ft.; 2 stories; cost \$4000; no heating plant; electric lighting. (Lately noted.)

W. Va., Charlestown.—Goetz & Miley let general contract to H. P. Cline to erect building, and to Woody & Baker for foundation and brick work; 3 stories; 3 stories on lower floor, with depth of 100 ft.; 6 or 8 apartments above; cost \$20,000 to \$25,000.

W. Va., Grafton.—Klein & Co., have plans by and let contract to Shadeford & Sons for addition to store; brick; Care's roofing; natural gas heat; gas and electric lighting; cost \$4000. (Lately noted.)

## THEATERS

N. C., Newbern.—Star Co. let contract to Rhodes & Underwood, Newbern, to remodel and enlarge theater; will extend 65 ft., enlarge lobby, construct balcony, etc.

S. C., Anderson.—Anderson Development Co. has plans by Chas. K. Bryant, Richmond, Va., for theater and office building; 82x204 ft.; fireproof; slate roof; steam heat; electric lighting; prism sidewalk lights; cost \$60,000; contract let to Roney & Atkinson.

## WAREHOUSES

Ark., Pine Bluff.—Ben B. Well let contract to R. M. Galbraith, Pine Bluff, to erect cotton warehouse; 100x154 ft.; fireproof; Kahn system reinforced concrete roof, Barrett top; cost \$16,500; Mitchell Seltzman, Archt., Pine Bluff; contract to Trussed Concrete

Steel Co., Detroit, Mich., at \$1850 for Kinear doors. (Lately noted.)

Fla., Palatka.—W. G. Tilghman let contract to repair warehouse, etc. (See Stores.)

La., New Orleans.—Board of Port Commrs. let contract at \$170,115.40 to Louisiana Contracting Co., Baton Rouge, to fill site for cotton warehouses; about 2,000,000 cu. yds.; clearing 90 acres; tentative plans for Commissioners for structures to be erected include 6 cotton warehouses 600x100 ft.; 8 stories; concrete; fireproof; capacity 54,000 bales each; Ford, Bacon & Davis, Engrs., 921 Canal St., New Orleans, are preparing final plans, which will not be ready for several months; voted \$3,000,000 bonds. (Lately noted.)

N. C., Charlotte.—Mercantile Development Co. (E. D. Latta and J. B. Duke) let contract to Travers Wood Co., Richmond, Va., to erect warehouse, office and store building on 1st St. between Church and Mint Sts.; number of stores 25x100 ft., with plate-glass windows; elevators; Travers Wood Co. wires Manufacturers Record: "Structure 600x100 ft.; 4 stories; reinforced concrete; unit brick curtain and dividing walls; metal windows; steel sash; composition roof; approximate cost \$180,000; Francisco & Jacobus, Archts., 209 5th Ave., New York." (Previously noted under stores.)

Tex., Texas City.—Texas City Transportation Co. it is reported, let contract to Houston Structural Steel Co., Houston, to erect warehouse along side of Pier A; steel and sheet metal; \$80x163 ft.; cost \$110,000.

Va., Norfolk.—J. Haskell will erect 1-story brick warehouse in rear of 618-24 Church St.; cost \$500; C. H. Plummer, Contr., Norfolk.

## RAILROAD CONSTRUCTION

## RAILWAYS

Ala., Eclectic.—Birmingham & Southeastern Ry. proposes to make extension soon from Eclectic toward Birmingham. W. M. Blount, Union Springs, Ala., is Prest.

Ala., Dothan.—Atlanta & St. Andrews Bay Ry. Co., is reported building a branch to St. Andrews, Fla., besides making other improvements. B. W. Steele, Dothan, Ala., is Gen. Mgr.

Ala., Opelika.—W. L. Carmack and associates have been granted a railway franchise by the City Council for 30 years covering Montgomery, York and 14th Sts. and North Railroad Ave. to 10th St. He proposes to build an interurban railway from Opelika to Auburn, Ala., about 7 mi. Right of way has been secured. He says that survey will begin soon.

Ark., Helena.—Missouri & North Arkansas R. R. is surveying for new terminal tracks. W. O. Galbreath is Chief Engr. at Harrison, Ark.

Ark., Little Rock.—St. Louis, Iron Mountain & Southern R. R., J. W. Dean, Gen. Supt., Little Rock, is reported preparing a general program for building more second track next year between St. Louis and Texarkana. Heavier rails are now being laid on parts of the line. J. R. Stephens, St. Louis, Mo., is chief engineer.

Ark., Mena.—Missouri, Arkansas & Southwestern Railway Co., capital \$2,000,000, is chartered to build a line about 80 mi. long from near Mena to Hot Springs, Ark. Incorporators: George D. Thayer, Prest.; W. B. Bradley, V.-P.; Minor Pipkin, Secy. and Treas.; A. H. Scroggin, J. H. Hamilton and John Thomson of Mena; J. D. Jones and W. E. Womble of Womble, Ark.; H. Williams of Hot Springs and L. L. Beavers of Mount Ida, Ark.

Ark., Mountain Home.—K. V. Loba of Yakima, Wash., Prest. of the Missouri & Arkansas Development Co. of Chicago, is reported saying that its offices will be removed to Mountain Home and construction of the proposed electric railway from Cotter, Ark., to Mansfield, Mo., will begin at Cotter as soon as surveys in progress can be completed.

Ark., Washington.—Construction has been started by the Haygood Light & Traction Co. of a gas-electric interurban railway from Blevins via Washington to Saratoga, Ark., about 25 mi. First work between Washington and Columbus on the way to Saratoga. R. S. Stout is Gen. Mgr.

Fla., Meredith.—McEachin-McNair Lumber Co. is reported to have let contract for a 10-mi. extension of its railroad, the Meredith Northern, already 22 mi. long. C. B. McNair and J. W. McNair are interested.

Fla., O'Brien.—Atlantic Coast Line, it is reported, proposes to extend to Fort George Island. E. B. Pleasants, Wilmington, N. C., is Chief Engr.

Ga., Moultrie.—Moultrie Southwestern Ry. Co. plans to build at present 21 mi. from Moultrie to either Meigs, Hansell or Ochlocknee, Ga., but will extend later to some point on the coast of the Gulf of Mexico. Incptrs.: W. E. Aycock of Moultrie, T. J. Aycock, I. W. Myers, G. A. Horkan, L. P. Skeen, R. J. Corbett, Howard Ashburn, A. Huber, Geo. T. Demott and J. A. Bowers. Route is through slightly rolling country.

Ga., Pelham.—Cairo, Pelham & Moultrie Ry. Co., capital \$75,000, has been chartered to build from Pelham to Moultrie, Ga., 50 mi.; incorporators, J. J. Hill and D. Turner of Pelham; Mrs. B. H. Polk of Ochlocknee; T. H. Hester and J. T. Forester of Cairo, Ga.; J. M. Mize, J. L. Prince, W. McCord and D. W. Jones of Meigs, Ga.

Ky., Dulany.—Joyce Bros. & Bagwell will sublet 40,000 yds. grader work on Illinois Central improvement.

Ky., Pikeville.—Polley & Justice of Pikeville have bought the John H. Addington timber tract on the headwaters of the Kentucky River and will build 3 mi. of narrow-gauge railroad.

Miss., Columbus.—The railroad of the Columbus Lumber Co. is merely for logging purposes, and while it is being built toward Winfield, Ala., it is only to get out timber lying in that direction. About 7 mi. are built and about 5 mi. more will be built this year. D. F. McCullough is Mgr.

N. C., Dunn.—Durham & Southern R. R. Co. proposes to build an extension this fall from Dunn to Mount Olive, about 33 mi. J. E. Stagg is V.-P. and Gen. Mgr. at Durham, N. C. Another report says the company contemplates building to Clinton, N. C., about 25 mi.

N. C., Elizabeth City.—Franchise to go through Elizabeth City with an electric interurban railway to be built from Wades Point to Elizabeth City and South Mills, N. C., and Norfolk, Va., about 100 mi., is granted to J. E. Commander, T. J. Markham and D. E. Williams of Elizabeth City by the Board of Aldermen.

N. C., Wilmington.—Wilmington & Carolina Beach Ry. Co., which proposes to build an electric railway to Wilmington and Carolina beaches, has organized with C. C. Chadbourne, Prest., Wilmington, N. C.; A. E. Leckie, V.-P., Washington, D. C.; Jos. L. Loughlin, Secy. and Treas.; Mr. Leckie and Chas. Hall Davis of Petersburg, Va., general counsel; Herbert McClammy, general attorney. Directors include Messrs. Chadbourne, Leckie and Loughlin, besides Martin Newman, L. W. Davis and Adolph G. Ahrens. J. F. Heyward is Ch. Engr. Surveys are made.

Okla., Oklahoma City.—A meeting of railroad men from various parts of the country is called for Aug. 1 in Oklahoma City to act on plans to build a system of electric inter-

urban railways through Oklahoma, which is designed to eventually connect Kansas City, Mo., with Dallas and Fort Worth, Tex. First section proposed is from Tulsa, Okla., via Broken Arrow, Coweta and Wagoner to Muskogee, Okla., 52 mi. J. W. Tipton and C. B. Hale of Ardmore, Okla., are reported promoting the plan.

Okla., Purcell.—Atchison, Topeka & Santa Fe Ry. is reported contemplating building a line from Purcell or Chickasha to Wichita Falls, Tex., about 100 mi. C. F. W. Felt, Chicago, is Chief Engr.

Okla., Sapulpa.—J. J. Harmon of Muskogee, Okla., proposes to build a railroad from Sapulpa to Drumright, Okla., 30 mi., for a bonus of \$125,000. Sapulpa Commercial Club, J. H. N. Cobb, Secy., is interested. It is contemplated to issue 6 per cent. bonds.

Tenn., Clarksville.—Louisville & Nashville R. R. contemplates improving Memphis line near Palmyra, cutting away a bluff and widening roadbed at a cost of about \$25,000. W. H. Courtenay, Louisville, Ky., is Ch. Engr.

Tenn., Memphis.—Illinois Central R. R., which is just completing track and grading work at Nonconnah Yard, near Memphis, at a cost of from \$200,000 to \$300,000, does not contemplate any more work here at present. This denies recent report from Memphis that \$5,000,000 worth of work was in contemplation. A. S. Baldwin, Chicago, is Chief Engr.

Tex., Fredericksburg.—San Antonio, Fredericksburg & Northern Ry. is reported considering plans to build an extension from Fredericksburg to Mason, Tex., about 60 mi. R. A. Love, San Antonio, Tex., is Prest.

Tex., Jefferson.—Jefferson & Northwestern Ry., it is reported, will revise line at Rocky Point, 7 mi. from Jefferson, requiring 15,000 yds. excavation, 12,000 yds. fill, etc. F. I. Clark is V.-P. and Gen. Mgr. and H. B. Montgomery is Ch. Engr. at Jefferson, Tex.

Tex., Houston.—Ed Kennedy of Houston, says a report, will promote plans for the construction of a railroad from Beaumont to Houston and Dallas, Tex., about 300 mi.

Tex., Matador.—Matador & Northern R. R. has completed 9 mi. line from Matador north

to a point near Roaring Springs on the Quanah, Acme & Pacific Ry. Newton Gaines is president. A. B. Echols is prominently interested.

Tex., San Marcos.—San Marcos Interurban Ry. Co., C. C. Merritt and others, proposes to build in the vicinity of San Marcos.

W. Va., Huntington.—Chesapeake & Ohio Ry. will spend for its proposed improvements in the Guyan Valley district, it is reported, \$147,000, and in the Coal River district \$25,000. Yards will be enlarged, sidings extended and trestles filled in, etc. F. L. Cabell, Richmond, Va., is Ch. Engr.

## STREET RAILWAYS

Fla., Clearwater.—Franchise for an electric street and interurban railway is granted to C. H. Evans by the City Council, subject to approval by a vote of the people of Clearwater on Aug. 25.

Fla., Miami.—L. D. Llewellyn, construction engineer, has begun survey for the proposed street railway of the Miami Traction Co. Thos. J. Duncan of Ocean City, N. J., is appointed Gen. Supt. of Constr. B. B. Tatum and others are interested.

Ky., Hopkinsville.—City Council has granted franchise to R. E. Cooper and J. H. Bell of Hopkinsville, subject to usual requirement for its sale at auction, which will be Aug. 22.

N. C., Wilmington.—Tidewater Power Co. has applied for franchise to extend its street railway tracks. A. B. Skelding is Gen. Mgr.

Tex., Dallas.—Southern Methodist University, among other improvement work, proposes to build a street-car line. Address H. D. Ardrey, V.-P. Dallas Trust & Savings Bank, Myers & Noyes, 403-4 Juanita Bldg., are Engrs.

Tex., Waco.—Southern Traction Co., J. F. Strickland of Dallas, Prest., is considering a proposition that it extend the East Waco street-car line to the Missouri, Kansas & Texas Railway shops at Bellmead, about 1½ miles.

W. Va., Parkersburg.—Parkersburg, Marietta & Interurban Ry. Co. is authorized to build an extension of its street railway on 2d St. H. H. Archer is Gen. Mgr.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

**Air Compressor.**—City of Lithonia, Ga., A. J. McGahee, Mayor.—Prices on air compressor, 100-125 cu. ft. capacity. (See Electrical Machinery, etc.)

**Air Washer.**—Treasury Dept., Office Supervising Archt., O. Wenderoth, Supervising Archt., Washington, D. C.—Proposals until Aug. 11 for installation of air washer, tempering coils, fan, etc., at U. S. Customhouse, Baltimore, in accordance with drawing and specification, copies of which may be had at above office or office of custodian, Baltimore, Md., in discretion Supervising Archt.

**Art Glass.**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on art glass for store and apartment building at Miami, Fla.

**Advertising Novelties.**—Decatur Foundry, Furnace & Machine Co., Decatur, Ind.—Samples and prices on advertising novelties.

**Baking Powder and Extract Machinery, etc.**—Leon Packing Co., Box 490, Tallahassee, Fla.—Catalogues and prices on machinery and supplies for manufacture of baking powder, flavoring extracts, prepared mustard and other grocers' specialties.

**Bank Protection.**—Board of Commrs., Caddo Levee Dist., J. M. Sentell, Prest., Shreveport, La.—Bids until Aug. 4 to construct following reaches in Caddo parish, Red River, right bank: Red Bayou reach, length to be protected, 4000 ft.; Cairo reach, 3500 ft.; Lucas reach, 4000 ft.; Campo Bello reach, 3500 ft.; information on application to Board of State Engrs., 201 New Orleans Court Bldg., New Orleans, La.

**Boiler.**—Dist. Commrs., 509 Dist. Bldg., Washington, D. C.—Bids until Aug. 4 to furnish and install horizontal baffle water-tube boiler, with heating surface of not less than 900 sq. ft., in public library at Mt. Vernon Square; plans and specifications on application Ch. Clerk, Engr. Dept., 427 Dist. Bldg.

**Boilers.**—Dixie Canner Co., Little Rock, Ark.—Correspondence with manufacturers of vertical boilers of 1½, 2, 3, 5 and 10 H. P. Send catalogues and quotations.

**Boilers.**—Engineer Depot, U. S. Army, Washington Barracks, D. C.—Proposals until Aug. 6 for furnishing two 12 H. P. return tubular boilers. Information on application Jos. E. Kuhn, Lieut.-Col., Engrs.

**Bridge.**—Board Public Works, D. R. Lyman, Ch. Engr., City Hall, Louisville, Ky.—Bids until July 31 on reinforced concrete 56-ft. skew-arch bridge across Dupuy St.; estimated cost \$13,000.

**Bridges.**—Dept. of Interior, Office of U. S. Reclamation Service, F. H. Newell, Director, Phoenix, Ariz.—Bids to erect four bridges, requiring 16,480 ft. B. M. lumber and 9600 lbs. steel and iron. (See Canal Construction.)

**Bridge Construction.**—Grady County Commrs., J. D. Chastain, Chrmn., Chickasha, Okla.—Bids until Aug. 3 to construct two steel bridges, one across Washita River and other across Lake Creek; plans and specifications on file with County Clerk, F. P. Bradley.

**Bridge Construction.**—City of Houston, Tex.—Bids at office of City Secy. until Aug. 3 to construct Wrightwood bridge; specifications and information obtainable from E. E. Sands, City Engr.; Ben Campbell, Mayor.

**Bridge Construction.**—Maryland State Roads Commission, O. E. Weller, Chrmn., Garrett Bldg., Baltimore, Md.—Bids until Aug. 13 to build sections 1 and 2 of Hanover Street Bridge, over Middle Branch, Baltimore city and Baltimore county: (a) Construct substructure, section 1, per specifications, including pro rata cost of cofferdams, pumping, excavation and backfilling, all temporary construction and incidental expense; (b) construct superstructure, section 2, per specifications, including pro rata cost of temporary construction, royalties, if any, and all incidental expenses; specifications obtainable from commission. This bridge is to be about 2300 ft. long, 45 ft. above water, 70 ft. wide.

**Bridge Construction.**—Floyd County Commrs., Floyd, Va.—Bids until Aug. 6 to construct steel bridge across Burk's Ford; 73 ft. long; one 37-ft. span and two 18-ft. beam spans; concrete substructures; further information available on application to G. P. Coleman, State Highway Commr., Richmond; blueprints may be secured from Childrey Co., Richmond, at 22 cents and postage.

**Brick.**—C. H. Yates, Oak Ridge, Va.—Prices on 50,000 hard red brick; delivered

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Arrington, Va.; garden wall shade; seconds will do, provided shape and sizes run true to standard; delivery in Aug.

**Bucket (Drag Line).**—Pennsylvania Equipment Co., West End Trust Bldg., Philadelphia, Pa.—Second-hand  $\frac{3}{4}$ -yd. drag line bucket, dumping both ends.

**Buckets (Wooden).**—L. A. Williams, Secy., Crowley Board of Trade, Crowley, La.—Correspondence with manufacturers of wooden buckets that can be creosoted and used for garbage receptacles in dry sanitary closet.

**Building Materials.**—H. B. Park, La Grange, Ga.—Prices on building materials for 4-story hotel.

**Cable.**—Engineer Depot, U. S. Army, Washington Barracks, D. C.—Proposals until Aug. 3 for furnishing 1800 ft., 106,000 cirmils, armored and served duplex rubber-insulated lead-sheathed cable. For further information address Jos. E. Kuhn, Lieut. Col., Engrs.

**Canal Construction.**—Dept. of Interior, Office U. S. Reclamation Service, F. H. Newell, Director, Phoenix, Ariz.—Bids until Aug. 24 to construct Wallace Feeder Canal on Salt River project; about 68,000 cu. yds. excavation material, 275 cu. yds. plain reinforced concrete in structures, 80 sq. yds. grouted paving and laying 160 lin. ft. 18-in. concrete pipe; also erecting 4 bridges, requiring 16,480 ft. B. M. lumber and 9600 lbs. steel and iron; further details with U. S. Reclamation Service, Phoenix, or Washington, D. C.

**Canal Construction.**—Avoyelles Drainage Dist. No. 4, C. Kelone, Prest, Marks-ville, La.—Bids received by Secy. of Dist. until Aug. 4 to construct drainage canal from lowland west to lowland east of Marks-ville; 150,000 cu. yds. excavation; for further information address Secy. of Dist.

**Candy Machinery.**—Piedmont Candy & Mfg. Co., 22 S. Forsyth St., Atlanta, Ga.—Catalogues and prices on candy machinery.

**Cars.**—Cobden Fuel Co., N. Main and 21st Sts., Fort Worth, Tex.—Miniature cars for display. (See Locomotives and Cars.)

**Cars (Creosoting).**—Atlantic Engineering Co., 614 Germania Bank Bldg., Savannah, Ga.—Number of narrow-gauge creosoting cars for South Georgia delivery; good condition; give details.

**Cars (Logging).**—Pennsylvania Equipment Co., West End Trust Bldg., Philadelphia, Pa.—Number of second-hand standard-gauge logging cars.

**Car Movers or Pushers.**—Scott Brick Process Co., Box 312, Knoxville, Tenn.—Addresses of manufacturers of hydraulic car pushers or movers, such as used in steel mills to push heavy cars a short distance.

**Causeway Construction.**—Walter F. Timon, County Judge, Corpus Christi, Tex. Bids at office H. E. Luter, County Clerk, Courthouse, until Aug. 17 to construct Corpus Christi causeway; work divided into three contracts: No. 1—Bridging, embracing 2500 lin. ft. concrete bridges, 19-ft. clear width with abutments, creosoted bulkheads and draw span; No. 2—Hydraulic fill, 6000 ft. long, containing 188,000 cu. yds. with brush mats and riprap; No. 3—Furnishing superstructure of draw span; instruction to bidders, proposal forms, specifications and plans on file with County Clerk, Corpus Christi, and Bartlett & Ranney, Consult. Engrs., Chandler Bldg., 108 E. Crockett St., San Antonio; copies furnished upon deposit of \$25.

**Crane.**—Atlantic Engineering Co., 614 Germania Bank Bldg., Savannah, Ga.—Locomotive crane for South Georgia delivery; good condition; give details.

**Culvert Construction.**—Comr. Levee Dist. No. of Faulkner County, J. E. Little, Prest, Conway, Ark.—Bids until Aug. 3 to construct concrete culvert in Mill bayou; plans and specifications obtainable from G. H. Burr, Engr., Conway, by depositing \$5.

**Curbing, etc.**—City of Salisbury, Md.—Bids received by Mayor and Council, City Hall, until Aug. 3 for following street improvements: 1700 lin. ft. combined concrete curb and gutter on W. Railroad Ave., 2200 lin. ft. on Wilson St., 3800 lin. ft. on S. Division St., 4800 lin. ft. on Mill St.; also drainage as follows: 2 manholes and 6 inlets on W. Railroad Ave., 2 manholes, 4 inlets and 200 lin. ft. storm sewer on Wilson St.; 1800 lin. ft. sewer, 7 manholes and 19 inlets on S. Division St.; 1200 ft. storm sewer, 4 manholes and 7 inlets on Mill St.; contract, specifications and blank proposal forms obtainable at City Hall; proposals for grading, curbing, guttering and drainage to be made separately for each street; P. S. Shockley Engr.; Jehu T. Parsons, City Clerk.

**Dam.**—Gonzales Water Power Co., Gon-zales, Tex.—Bids until Aug. 12 at office

Frank S. Taylor, Engr., Scarborough Bldg., Austin, Tex., to construct reinforced concrete dam on Guadalupe River at Gonzales; plans, specifications, etc., at office Engr.

**Drainage System.**—Comr. Cabarrus County Drainage Dist. No. 3, R. W. Fleming, Secy., Concord, N. C.—Bids until Aug. 7 to construct drainage canal in bottoms of Codie Creek; length, 5,090 m.; 14,000 ft., 14 ft. wide at bottom and 10 ft. deep, with slope of  $\frac{1}{2}$  ft. horizontal to 1 ft. vertical; remainder, 16 ft. wide at bottom and 10 ft. deep, with same slope; excavation, 180,000 cu. yds.; plans and specifications on file with Clerk Superior Court, Concord, or W. D. Alexander, Engr., Charlotte, N. C.

**Electrical Machinery, etc.**—City of Lithonia, Ga., A. J. McGahee, Mayor.—Prices on 25 H. P. electric motor, 220 volt-ampere, 60 cycles, alternating current; also compressor of 100-125 cu. ft. air capacity; consider second-hand, in first-class condition.

**Electrical and Ice Machinery.**—Citronelle Public Service Corp., Citronelle, Ala.—200-volt, 60-cycle,  $\frac{1}{2}$  to 10 K. W. transformer, wire, poles, crossarms, etc.; 6 to 8-ton ice machine; condensers, feed-water heater; boiler pumps; house-wiring supplies; also fans, heater, etc.

**Electric-light Plant.**—See Ice and Electric-light Plant, M. M. Smith.

**Electric-Plant Equipment.**—Carl Shipp, Winnsboro, La.—Oil-burning engine, generator, supplies and fixtures for electric-light plant.

**Elevators.**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on power elevator and endless chain dumb waiters for store and apartment building at Miami, Fla.

**Elevator.**—H. B. Park, La Grange, Ga.—Prices on elevator for 4-story hotel.

**Elevator.**—Sargent Hamilton Co., Clearwater, Fla.—Hand-power elevator, about 500 lbs. capacity, for hospital.

**Engine.**—J. H. & W. C. Wilson, Lincoln, Ala.—Corliss engine; 12x36; second-hand; perfect condition.

**Engines (Oil).**—Knickerbocker Ice Co., Geo. Miller, Prest, Charles St. and Mt. Royal Ave., Baltimore, Md.—Data and prices on oil engines. (See Gas Producers, etc.)

**Engines (Oil, Diesel).**—D. B. J. Baldwin, Verben, Ala.—Addresses of manufacturers of Diesel oil engines.

**Engine (Oil).**—Carl Shipp, Winnsboro, La.—Oil-burning engine. (See Electric-plant Equipment.)

**Engines (Hoisting).**—Pennsylvania Equipment Co., West End Trust Bldg., Philadelphia, Pa.—D. C. D. D. hoisting engine; about 30 H. P.

**Feed Mill Machinery.**—R. M. Pooley, Reform, Ala.—Feed mixer (Williams molasses feed mixer preferred); also molasses pump, adjustable feeders, elevators and conveyors, alfalfa grinder and corn grinder; would like machine that crushes corn and oats and makes unbolted corn meal for table use.

**Filling (Bottle) Machine.**—Grainer Mfg. Co., Wheeling, W. Va.—Machine to fill castor oil in 3-oz. bottles.

**Flooring (Title).**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on 3000 sq. ft. tile floors for store and apartment building at Miami, Fla.

**Furniture.**—H. B. Park, La Grange, Ga.—Prices on furniture for 4-story hotel.

**Gas Purifiers.**—City Gas Works, W. P. Knowles, Supt., Richmond, Va.—Bids until Aug. 10 to construct 3 purifiers of "Chollar" design with foundation and connections complete; bidders to visit site and make examinations; specifications on file at office Supt. at Lower Gas Works.

**Gas Producers, etc.**—Knickerbocker Ice Co., Geo. Miller, Prest, Charles St. and Mt. Royal Ave., Baltimore, Md.—Data and prices on gas producers with gas engines; also oil engines.

**Grading, etc.**—J. D. Laughlin, Chancery Clerk, Vicksburg, Miss.—Bids until Aug. 6 to cut and grade bank on west side Yazoo Canal at Yazoo Canal Ferry landing; plans and specifications on file with Chancery Clerk.

**Grading, etc.**—W. S. Pettit, Mayor, North Richmond, P. O. at Richmond, Va.—Bids until July 28 to grade and gravel streets, place curbs and gutters and construct sewers; further information obtainable from office Saville & Claiborne, Engrs., Railway & Power Co. Bldg., Richmond.

**Heating Plant.**—H. B. Park, La Grange, Ga.—Prices on steam heating plant for four-story hotel.

**Heating Plant.**—Sargent Hamilton Co., Clearwater, Fla.—Prices on heating plant for \$12,000 hospital building.

**Hoisting Tower.**—Navy Dept., Bureau Yards and Docks, H. R. Stanford, Ch. of Bureau, Washington, D. C.—Bids until Aug. 29 for coal-hoisting tower for naval coal depot, San Diego, Cal.

**Ice and Electric-light Plant.**—M. M. Smith, V.-P. Bank of Oviedo, Oviedo, Fla.—Interested in securing establishment of ice and electric-light plant.

**Ice Machinery.**—John C. Webb & Sons, Demopolis, Ala.—Addresses of manufacturers of ice machinery.

**Ice Machinery.**—Citronelle Public Service Corp., Citronelle, Ala.—6 to 8-ton ice machine. (See Electrical and Ice Machinery.)

**Pipe Line.**—Champion Fiber Co., Canton, N. C.—Bids on contemplated installation of 30-in. pipe line, about 830 ft. long, laid at depth of 15 to 22 ft. below grade; plans and specifications on file.

**Ice Machinery, etc.**—Navy Dept., Bureau Yards and Docks, H. R. Stanford, Ch. of Bureau, Washington, D. C.—Bids until Aug. 29 to build and equip ice-making and cold-storage plant at U. S. Naval Station, Pearl Harbor, Hawaii; appropriation \$25,000; plans and specifications on application to Bureau or Commandant of naval station named.

**Laundry Machinery.**—Murray E. Hall, Fellsmere, Fla.—Data and prices on laundry equipment for city of about 2500. Give details as to power equipment, etc.

**Laundry Machinery and Supplies.**—L. W. Holloma, Box 202, Edenton, N. C.—Prices on steam laundry machinery and supplies.

**Lighting Fixtures.**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on electric-lighting fixtures for store and apartment building at Miami, Fla.

**Locomotive.**—Charleston-Isle of Palms Traction Co., Charleston Hotel Bldg., Charleston, S. C.—Locomotive; 100 H. P.; using crude oil or coal as fuel.

**Locomotives and Cars.**—Cobden Fuel Co., N. Main and 21st Sts., Fort Worth, Tex.—Correspondence with manufacturers of miniature engines and cars; contemplates loading few cars with coal for exposition display.

**Lumber.**—C. H. Yates, Oak Ridge, Va.—Delivered prices Arrington, Va., on dressed cyprus lumber for inside work.

**Machinists.**—See Pump Switch.

**Manual Training Equipment.**—Chandler Normal School, F. J. Werking, Principal, Lexington, Ky.—Prices on tools for carpentry, plumbing and printing for manual-training work.

**Metal Ceilings, etc.**—W. E. Ward, Pineapple, Ala.—Prices on metal cornice and metal ceiling.

**Metal Culverts.**—J. C. Fleming, Agt., Box 154, Columbia, S. C.—Bids, for immediate shipment, on full circle corrugated galvanized metal culverts as follows: 5-100 pieces, 16 gauge, 10, 12, 15, 18 and 20 in. diam., each piece 10 ft. long, total 1000 ft. per 100 pieces; 60 pieces, 15 gauge, 24 in. diam., each piece 10 ft. long, total 600 ft. long; 10 pieces, 15 gauge, 30 in. diam., each piece 10 ft. long, total 100 ft. long; 10 pieces, 14 gauge, 36 in. diam., each piece 10 ft. long, total 100 ft. long; 5-70 pieces, 10, 12, 15, 18 and 20 connecting bands; 40 pieces, 15 gauge, 24 connecting bands; 7 pieces, 14 gauge, 36 connecting bands; quote prices f. o. b. factory, and delivered prices, Savannah, Ga., stating guaranteed analysis of metal and weight per lin. ft. of each diam.; bidders to furnish drawings of connecting bands.

**Metal Shutters.**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on rolling metal store shutters.

**Meters (Gas and Electric).**—B. O. Parkhurst, Box 706, St. Petersburg, Fla.—Prices on quarter-in-the-slot gas and electric meters.

**Meters (Water).**—City of Clarendon, Ark.—Will buy 200 meters. Address John W. Hooper, Secy., Waterworks Improvement Dist. No. 1.

**MII Machinery (Corn).**—See Feed Mill Machinery, R. M. Pooley.

**Panels.**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on 8 panels, each 9 ft. 6 in. by 9 ft. 6 in.

**Paving, Sewers, etc.**—City of Williamson, W. Va.—Bids until Aug. 10 to construct 50,000 sq. yds. brick, bituminous macadam and concrete pavement; 1000 lin. ft. curbing and 5000 lin. ft. sewers; plans and specifications, etc., in office of N. H. Mannakee, City Engr., First National Bank Bldg., on and after July 30; John S. Hall, Recorder.

**Paving.**—Comr. Improvement Dist. No. 18, C. K. Faison, Chrnn., Texarkana, Ark.—Bids until Aug. 1 for 800 sq. yds.

concrete pavement; plans and specifications obtainable from C. K. Faison.

**Paving.**—J. B. Winslett, City Secy., Dallas, Tex.—Bids until Aug. 3 to pave following streets: Washington Ave., San Jacinto St. to Ross Ave.; Lamar St., Pacific to McKinney Ave.; Crowder St., Elm to Commerce St.; Jackson St., Pearl to Preston; Race St., Elm to Main St.; Hawkins St., Commerce to Bryan St.; Hall St., Ross to Swin Ave.; Peak St., Elm St. to East Side Ave.; Hall St., Knight to Douglas St.; Broom St., Lamar to Laws St.; Bryan St., St. Joseph St. to Munger Blvd.; Carroll Ave., Swiss to Reiger Ave.; materials to include asphalt, Bermudian bituminous concrete (asphaltic concrete), concrete curb, concrete gutter, combination concrete curb and gutter; specifications on file with City Secy.

**Paving.**—W. L. Steele, Mayor, Nicholasville, Ky.—Bids until Aug. 1 to pave Main St., Depot to S. Cross St., with asphalt; 4500 sq. yds.; plans and specifications on file with J. W. Cooper, City Clerk.

**Paving.**—Baltimore (Md.) Board of Awards, care City Register.—Bids until Aug. 5 to grade, curb and pave with sheet asphalt and vitrified brick, all on concrete base, portions of Eager, Madison, Monument, Mulberry, Division, Hamilton, Mosher and Tyson Sts., Linden Ave. and Breckton Al., contract No. 29; 40,150 sq. yds. sheet asphalt and 4810 sq. yds. vitrified brick paving; specifications and proposal sheets obtainable on application to Paving Com., R. Keith Compton, Chrnn. and Consult. Engr., City Hall; plans and profiles on file with Consult. Engr.

**Paving.**—Board of Public Works, Roger G. McGrath, Secy., Louisville, Ky.—Bids until Aug. 5 to construct vitrified block sidewalks on Roberta, Burnet and Sherwood Aves., Market, Hill, Breckinridge, Kentucky, 3d and 25th Sts.; drawings and specifications on file with Board of Public Works.

**Paving.**—City of Houston, Tex.—Bids until Aug. 3 at office of City Secy. to grade and pave Webster Ave. from Main to Sherman St., and Avondale Ave. from Baldwin to Hopkins St.; following materials considered: Asphaltic concrete, sheet asphaltic, bituminous, vertical fiber brick (asphalt filler), Uvalde rock asphalt and 3-in. wood block; specifications and information obtainable from E. E. Sands, City Engr.; Ben Campbell, Mayor.

**Paving.**—Baltimore (Md.) Board of Awards, care City Register.—Bids until Aug. 5 to grade, curb and pave with sheet asphalt 23d St. from Charles to St. Paul St., 24th St. from St. Paul St. to Guilford Ave. and Westwood Ave. from Thomas to Whitmore Ave.; about 4900 sq. yds.; specifications obtainable on application to Eugene E. Grannan, Prest. Commr. for Opening Streets, City Hall.

**Paving Blocks.**—Comr. Public Works, D. B. McKay, Chrnn., Tampa, Fla.—Bids until Aug. 4 to furnish city with 400,000 vitrified paving blocks; brick to be delivered f. o. b. cars on wharf, Tampa; specifications obtainable from City Engr.

**Paving.**—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust & Savings Bank Bldg., Dallas, Tex.—Will invite bids in next 30 days to construct 14,000 sq. yds. concrete paving; Myers & Noyes, Engrs., 403 Juanita Bldg., Dallas.

**Paving.**—Dept. Public Finances, Accounting Division, A. G. Ricks, Commr., New Orleans, La.—Bids until Aug. 3 to surface with tarvia, Finley Method Special, both roadways of St. Claude Ave., Montegut to Devery Sts.; plans and specifications on file with City Engr.; proposal forms furnished by City Engr.

**Plumbing.**—H. B. Park, La Grange, Ga.—Prices on plumbing for 4-story hotel.

**Plumbing.**—Sargent Hamilton Co., Clearwater, Fla.—Prices on plumbing for \$12,000 hospital building.

**Pole Line.**—Comr. of Public Works, G. A. Norman, Chrnn., Walhalla, S. C.—Bids until Aug. 12 to furnish material and construct pole line distribution system; plans and specifications on file with Town Clerk and Engr., J. B. McCrary Co., 1408-B Third National Bank Bldg., Atlanta, Ga.

**Pump Switch.**—Automatic Pump & Tell Tale Switch Co., 408 Prudential Life Bldg., San Antonio, Tex.—Prices on manufacture of patented automatic pump tell tale switch.

**Pumps.**—See Shell Hoists, etc., Panama Canal.

**Pumps.**—Stanton Foundry & Machine Co., Palatka, Fla.—Prices and description of diaphragm pumps (Edson preferred), direct-connected to gas engine; use connection with sewerage construction.

July 30, 1914.]

## MANUFACTURERS RECORD.

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**Refrigerating Machinery.**—Murray E. Hall, Fellsmere, Fla.—Data and prices on refrigerating plant (circulation of brine and ammonia) for meat market; for about 2500 lbs. fresh meat.

**Refrigerating Machinery.**—Panama Distilling Co., Box 29, Ancon, Panama.—Prices on small refrigerating plant or ammonia pump and cooling apparatus for mash tub.

**Road Construction.**—Comr. Road Dist. No. 2 of Nobuxee County (J. L. Ormsby and others), Macon, Miss.—Bids until Aug. 4 for machining Macon and Fairfield Rd. and hauling gravel on same road, and 2 mi. from Ormaby Creek; bids also received for dragging and keeping chuck holes properly filled on Paulette Rd. from termination of rock road to Paulette, Miss.

**Road Construction.**—Palm Beach County Comr., R. H. Rousseau, Chrmn., Palm Beach, Fla.—Bids until Aug. 4 to build and hard surface Swinton Ave. extension, Atlantic Ave. extension and South Rd. at Delray, Special Road and Bridge Dist. No. 2; plans and specifications on file with Geo. O. Butler, Clerk.

**Road Construction, etc.**—Capt. Wm. E. Hunt, Depot Q. M., El Paso, Tex.—Bids until Aug. 13 to construct roads, walks, gutters and drains at Fort Bliss, Tex.; applications for plans, etc., to be accompanied by certified check for \$10.

**Road Construction.**—Montgomery County Road Comr., Clarksville, Tenn.—Bids until Aug. 7 to construct 10,000 cu. yds. macadam suracing and 55,000 cu. yds. excavation; plans and specifications and proposal forms on file with D. T. Foust, Engr., Courthouse, Clarksville.

**Road Construction.**—Hillsboro County Comr., W. P. Culbreath, Clerk, Tampa, Fla.—Bids until Aug. 6 to furnish materials and pave following roads: Tampa-Plant City Rd., 128,000 sq. yds. brick pavement, No. 1 brick, 15 ft. wide; 154,294 lin. ft. of granite curb; Harney-Thonotosassa Rd., 46,500 sq. yds. brick pavement, No. 1 brick, 9 ft. wide; 9,000 lin. ft. of wood curb; Riverview Rd., 2,500 sq. yds. brick pavement, No. 1 brick, 9 ft. wide; 105,600 lin. ft. of wood curb; Port Tampa Rd., 25,000 sq. yds. brick pavement, No. 1 brick, 15 ft. wide; 30,000 lin. ft. of wood curb; profiles and specifications on file with Jas. Riddle, County Roads Engr., Tampa; bidders to examine location; blank proposal forms furnished by Road Engr.

**Road Construction.**—Nassau County Comr., J. W. Keen, Chrmn., Fernandina, Fla.—Bids until Aug. 12 for following: Clearing and grading road between Wilds Landing on St. Mary's River to Gross, and from Gross to connect with Fernandina-Kings Ferry Rd.; clearing and grading Yulee-Callahan Rd. from present grade to Comr.'s Dist. No. 3; clearing and grading Yulee-Kings Ferry Rd. from present grade to Comr.'s Dist. No. 3; clearing and grading extension of Hilliard-Callahan Rd. from Hilliard to Kolar's Ferry on St. Mary's River; grading and shelling 2 mi. Fernandina-Amelia Rd. from Nassau farm to Judd Cemetery; completion of sections of road on Fernandina-Jacksonville highway between Yulee and Hedges and Yulee and Lofton; clearing and grading Callahan-Hillard Rd. in accordance with route designated by Board; all roads 30 ft. wide; specifications on file with Clerk of Circuit Court.

**Road Materials.**—J. D. Laughlin, Chancery Clerk, Warren county, Vicksburg, Miss.—Bids until Aug. 4 to furnish gravel, novaculite or stone as may be needed for permanent roads, contracts for which were let (as lately noted under Road and Street Work) to Owens Construction Co.; plans and specifications on file with Chancery Clerk.

**Roofing.**—W. E. Ward, Pineapple, Ala.—Prices on Barrett's specification felt and pitch roofings.

**Screens.**—H. B. Park, La Grange, Ga.—Prices on screens for 4-story hotel.

**Separators (Steam), etc.**—Navy Dept., Saml. McGowen, Paymaster-Gen., Washington, D. C.—Bids until Aug. 11 to furnish at Key West, Fla., steam separators, trap, schedule 7072; cupola, schedule 7074; for schedules apply to navy pay office nearest navy-yard.

**Sewer Construction.**—See Curbing, etc.

**Sewer Construction.**—Fred Fries, City Clerk, San Antonio, Tex.—Bids until Sept. 7 to construct sanitary outfall sewer 72 in. in diam. and about 15,000 ft. long; plans and specifications on file with City Engr.

**Sewer Construction.**—Comr., Dist. of Columbia, 509 Dist. Bldg., Washington, D. C.—Bids until Aug. 3 to construct 10,000 lin. ft. pipe and concrete sewer 10 in. to 4 ft. 6 in. diam.; proposal forms, specifications and information obtainable from Ch. Clerk, Engr. Dept., 427 Dist. Bldg.

**Sewer Construction.**—City of St. Louis, Mo., Room 300, New City Hall.—Bids until Aug. 5 to construct first section Mill Creek Joint District sewer; until Aug. 7 to construct second section Mill Creek Joint District sewer and Steius Street Joint District sewer and branches; plans, specifications, form of contract and other information obtainable from Board of Public Improvements and Sewer Commissioner.

**Sewer Construction.**—See Grading, etc.

**Sulphur Mining, Equipment, etc.**—W. W. Johnson, care Commercial Hotel, Mexia, Tex.—Data on sulphur mining, including process, value of product, cost of equipment, etc.; one deposit is 50 ft. thick at depth of 200 ft.; another 125 ft. at 400-ft. depth.

**Sewer Materials.**—See Water-works and Sewer Materials, Palmetto, Fla.

**Sewers.**—See Paving, Sewers, etc., W. Va., Williamson.

**Sewers.**—Southern Methodist University, H. D. Andry, V.-P., Dallas Trust & Savings Bank Bldg., Dallas, Tex.—Will invite bids to construct 15 and 18-in. sewer mains; cost \$25,000; Myers & Noyes, Engrs., 403 Juanita Bldg., Dallas.

**Screws (Brass and Iron).**—Panna Lall Dutt & Co., No. 45 Sitaram Ghosh St., Calcutta, India.—Correspondence with manufacturers of iron and brass screws; view to agencies.

**Sewage-Disposal Plant.**—City of Durham, N. C.—Bids until Aug. 10 to construct sewage-disposal plant, consisting of Imhoff tank, sand filter covering about two acres and one ml. 24-in. terra-cotta pipe line; plans and specifications in offices of City Engr. and Gilbert C. White, Consult. Engr., Charlotte, N. C.

**Shell Hoists, etc.**—Panama Canal, F. C. Boggs, Gen. Purchasing Officer, Washington, D. C.—Bids until Aug. 17 to furnish shell hoists, powder hoists, shell tables, motor-driven pumps and float switches for fortifications; blanks and general information relating to this circular (No. 863) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 106 North Point St., San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

**Standpipe.**—R. W. Baker, Mayor, Petersburg, W. Va.—Bids until Aug. 10 on steel standpipe; 60 ft. high, 20 ft. in diam., and 50 ft. high, 23 ft. in diam.; roof ladder and foundation.

**Switches (Float).**—See Shell Hoists, etc., Panama Canal.

**Telephones.**—War Dept., Office of Chief Signal Officer, Washington, D. C.—Proposals until Aug. 5 for furnishing under proposal No. 709 450 common wall telephones, 100 desk telephones, 3 switchboards and 4 cabinets. Information on application to Charles S. Wallace, Capt., Signal Corps, U. S. Army.

**Telephone Equipment.**—War Dept., Office of Ch. Signal Officer, Chas. A. Wallace, Capt., Washington, D. C.—Bids until Aug. 5 to furnish miscellaneous lot telephone equipment, including 450 wall telephones, 100 desk telephones, common batteries, 2 switchboards, lamp line, wired and equipped for 100 C. B. lines; 5 magnet trunk lines, etc.; 2 switchboards, lamp line, 2 position, wired and equipped with 200 C. B. lines, 10 magnet trunk lines, etc.; 2 arrester cabinets, each for 100 and 200-line switchboards, respectively. Send for specifications.

**Telephone System.**—H. B. Park, La Grange, Ga.—Prices on intercommunicating telephones for 4-story hotel.

**Trucks (Auto).**—F. Vernon Aler, Martinsburg, W. Va.—Data and prices on auto trucks for hauling bricks; will need two at least.

**Washers (Sand).**—North East Mining & Milling Co., Havre de Grace, Md.—Sand-washing plant.

**Water-works and Sewer Materials.**—City Council, Asa Lamb, Prest., Palmetto, Fla.—Bids until Aug. 2 on following material and machinery: Two 40 H. P. oil engines, direct-connected to two 500 G. P. M., double-acting triplex pumps; 300 ft. 15-in., 320 ft. 12-in., 3300 ft. 10-in. and 15,355 ft. 8-in. terra-cotta pipe; 40 manhole castings, dustpans and rods; 18 flush tank castings; 9 automatic flush tank siphons and stop-cocks; 9 hand flush tank valves and stop-cocks; 200 manhole steps; 42,500 brick; 214 bbls. cement; 65 yds. sand; 106 tons stone;

761 lbs. yarn; 4 15-in., 66 12-in., 76 10-in. and 348 8-in. Y branches; amounts approximate; specifications obtainable from T. S. Pollard, City Clerk, or from J. B. McCrary Co., Engr., 1408 Third National Bank Bldg., Atlanta, Ga.

**Water System (Isolated).**—Geo. L. Pfeiffer, Lemon City, Fla.—Prices on pneumatic or other mechanical water-lift system, electric or gasoline power, for \$24,000 dwelling at Miami, Fla.

**Water-works.**—Water Improvement Dist. No. 2, H. Q. Donaldson, Secy., Paragould, Ark.—Bids until July 30 to extend pipe line, install hydrants and valves and erect 100,000-gal. steel tank on 100-ft. tower; Rollins & Co., Engrs., 420 Midland Bldg., Kansas City, Mo.; plans and specifications in offices of Engrs. and Secy. Improvement Board.

**Well Drilling and Equipment.**—A. C. Parks, Secy., Henrietta Booster Club, Henrietta, Tex.—Data and prices on drilling, well-drilling machinery, casing, etc., for oil development.

**Well Drilling.**—A. C. Burnett Co., Cadiz, Ky.—Correspondence with practical well drillers and contractors for drilling oil wells.

**Well Drilling.**—F. R. Hamilton, Lafayette, Ky.—Correspondence relative to placing contract for drilling artesian wells.

## The South Invites.

The Old Faber Place,

Near Charleston, S. C., July 27.

*Editor Manufacturers Record:*

For a number of years—I can't remember how many—I have looked upon the South as the nation's greatest asset, an idea which you so wonderfully and graphically illustrated in your matchless edition last autumn, and for which edition the South should pay obeisance unto you.

The stimulating articles in the MANUFACTURERS RECORD, week in and week out, have been the means, to a great extent, of the South's taking the stupendous strides, greater than ever of late, and which have surprised even the most optimistic of her sons. These have followed closely in the track of your giant issue, "The South—The Nation's Greatest Asset," the publication of which, you have not forgotten, was urged by me through your columns with uncensuring emphasis preceding its edition.

The conventions of far-reaching importance to the whole South and of interest to the whole country about to meet in Richmond, Va.; Atlanta, Ga., and Birmingham, Ala., to which you so forcibly allude in your circular-letter of July 22, will bring together financial and business men from the beehives of industry in every section of this great republic, where they can see and learn from personal observation the vast and inexhaustible resources of this God-favored Southern country, an inspiration beyond conception.

While hailing with joy and delight the visit in our midst of these powerful and influential men, the South promises to them a scene of wealth-rich lands un-tilled, mines of the choicest ores un-scratched, lovely sites for winter homes, sighing for a lord, all pleading with the busy hand of capital to develop them, and on which they promise a return which neither we nor they can estimate.

The South will be glad to have as many of these who can come to be with us. It will be a visit of no ordinary concern. We welcome you to our hearts and homes. We want those of you who can to come and live with us and enjoy the true happiness which only a real Southern atmosphere can give. At any rate, come and pay us a visit.

Furthermore, remember we of Charleston, S. C., want as many of our Northern and Western friends while in our neighborhood to drop in and pay us a call, even if it be a brief one. It would be no loss of time to do so with those who have capital for safe investment. Those who would honor us with their company would find

that the activities now stirring our old city are matters not of fancy, but hard, stubborn facts.

A. C. KAUFMAN.

## FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

## FINANCIAL CORPORATIONS

Ala., Cragford.—A new bank is being organized by W. D. Mitchell and others.

Ala., Fort Payne.—Citizens' National Bank is organized with \$25,000 capital, business to begin Oct. 1; H. B. Brock, Prest.; T. J. Cook, Cash.

Ala., Rockford.—Bank of Rockford has made application to convert into the First National Bank of Rockford; capital \$25,000. Ark., Huntsville.—A new national bank is being organized with \$25,000 capital by O. B. Keel and J. D. Moore, Oklahoma City, and A. C. Chambers, Little Rock. Business is expected to begin within 30 days.

Ala., Sawyersville.—First National Bank has made application to organize; capital \$25,000. Organizers: W. G. Lunsford, W. G. Lunsford, Jr., N. L. Lunsford, R. B. Evans and E. S. Jack.

Ark., Pine Bluff.—Bank of Pine Bluff is to be organized with C. H. Triplett, Prest. Others interested are W. D. Atwood of New Edinburg, J. A. Dean of Portland, V. J. McCloy of Monticello and others.

Fla., Safety Harbor.—Bank of Safety Harbor has made application for charter. E. N. Morrow will be Cash.

Fla., Wauchula.—First National Bank has made application to organize; Albert Carlton, S. C. Carlton, J. W. Earliest and W. D. McInnis, organizers. This succeeds Carlton & Carlton, bankers.

Ga., Athens.—Commercial Bank of Athens is a conversion of the Citizens' Bank & Trust Co., capital \$50,000; surplus \$5000; Andrew C. Erwin, Prest.; C. D. Flanigan and H. H. Gordon, Jr., V.-P.; Harvey Stovall, Cash.; W. S. Johns, Asst. Cash.

La., Ville Platte.—First National Bank of Ville Platte chartered; capital \$25,000; A. Corell, Prest.; L. G. Vidrine, Cash.

Miss., Holly Springs.—Potts Camp State Bank is chartered; capital \$10,000; organizers, A. Q. Greer, B. A. Edwards, J. R. Taylor, L. W. Brown, Dr. F. P. Bootner, S. W. Mullins and M. A. Green. Business is to begin about Sept. 1.

Mo., Golden City.—Golden City Banking Co. has made application to convert into the Golden City National Bank, capital \$25,000.

Mo., Hamburg.—Hamburg Bank, capital \$10,000, is organized with following directors: Dr. M. Castillo, Henry Bergfeld, H. H. Heusler, L. Mades, Wm. Long, Theo. Selb and J. H. Schneider.

N. C., Charlotte.—A mutual savings and loan company is to be organized by W. N. Saunderson.

N. C., Charlotte.—Citizens' Savings & Loan Corp. Incptd.; authorized capital \$100,000. Jas. O. Gardner, Prest.; J. W. Zimmerman, V.-P.; Jas. A. Fore, Secy.; J. T. Porter, Treas. and Mgr.; C. B. Bryant, J. N. McCausland, R. W. Miller, C. W. Parker, John F. Yorke, W. C. Dowd, J. R. Bartol, Directors. Business is to begin when \$25,000 is subscribed and paid in.

N. C., Leakesville.—Boulevard Bank & Trust Co., capital \$10,000, is organized with William Grissom Prest.; M. L. Heiner, V.-P.; P. H. Gwynn, Cash.

N. C., Lucama.—Bank of Lucama is chartered; capital \$12,500; organizers, J. W. Lamm, P. L. Woodard and others.

N. C., Smithfield.—Johnston County Bank Incptd., capital 25,000; W. M. Sanders, Prest.; W. W. Cole, V.-P.; T. C. Evans, Cash. Business is to begin Aug. 15.

Okl., Hooker.—First National Bank of Hooker chartered; capital \$25,000; surplus \$5000. Directors: L. G. Blinckmer, Prest.; C. F. Rose, V.-P.; C. E. Wilson, Cash.; D. B. Almond, B. S. Neff and W. S. McNabb. Business began June 23.

S. C., Chester.—The firm of T. H. White & Son is chartered to do an insurance business. Business began July 1.

S. C., Springfield.—First National Bank, capital \$25,000, is organized with Mike Gleaton, Prest.; E. J. Boland, Cash. This succeeds the People's Bank of Springfield.

Tenn., Bronxville.—Fidelity Trust Co., capital \$100,000, has made application for charter. Organizers: J. Allen Smith, M. D. Arnold, Ben A. Morton, John W. Green, William S. Shields and Frank M. Haynes.

Tex., Dallas.—Dallas Investment Co. chartered; capital \$2000; incorporators, E. J. Naylor, J. B. Martin and J. M. Thomas.

Va., Chatham.—First National Bank of Chatham is approved; capital \$25,000; organizers, J. W. Collie, W. P. Parrish, S. J. Kendrick, G. W. Gammon and J. B. Shellohorne.

W. Va., Beckley.—Beckley National Bank chartered; capital \$50,000; J. A. Wood, Prest.; J. E. Toliver, Cash. This is a conversion of the Winding Gulf Bank.

W. Va., Hillsboro.—Bank of Hillsboro, capital \$25,000, is organized with Geo. W. Callison, Prest.; F. W. Ruckman, V.P.; J. K. Marshall, Cash.

### NEW SECURITIES

Ala., Flora.—\$20,000 5 per cent. 30-year water-works and sewer bonds are voted. Address The Mayor.

Ala., Gadsden.—Ordinances have been prepared providing for the issuing of \$15,000 6 per cent. 10-year street-improvement bonds. J. H. Holcombe is Mayor.

Fla., Alva.—Alva Sub-school Dist., Lee county, has sold \$15,000 of 5 per cent. bonds. Address County Commsrs., Fort Myers.

Fla., Arcadia.—Bids will be received until 2 P. M. Sept. 8 by A. L. Durrance, Clerk, Court of DeSoto county, for \$350,000 road and bridge bonds.

Fla., Cedar Keys.—\$15,000 6 per cent. 10-15 year school district building bonds are voted. Address Board of Trustees.

Fla., Fort Myers.—\$30,000 of city-improvement bonds have been purchased by John Nuveen & Co., bankers, Chicago, at par and accrued interest from July 1, 1913.

Fla., Fort Meade.—Election is to be held Aug. 21 to vote on \$7000 municipal building, \$25,000 electric-lighting plant, \$25,000 street-paving, \$7500 water-works and sewer bonds. Address The Mayor.

Fla., Jacksonville.—Bids will be received until 3 P. M. July 31 for \$65,000 6 per cent. paving certificates; denomination \$1000; dated Aug. 1, 1914. Frank Richardson is Chrmn. Board of Bond Trustees.

Fla., Key West.—City is considering question of issuing \$500,000 of bonds for constructing and furnishing a tourist hotel. Address The Mayor.

Fla., Lakeland.—Election is to be called to vote on bonds. O. M. Eaton is Mayor.

Fla., Lake City.—Bids will be received until 8 P. M. Aug. 24 for \$79,000 5 per cent. 30-year validated redemption and improvement bonds. Dated Oct. 1, 1913. Denomination \$1000. G. A. Bule is Chrmn. Board of Public Works. Further particulars will be found in the advertising columns.

Fla., Marianna.—Oct. 20 election is to be held to vote on \$56,000 5 per cent. 30-year municipal improvement bonds; denomination \$1000. Paul Carter is Mayor.

Fla., Miami.—\$15,000 6 per cent. bonds Coconuts Grove Special Tax School Dist. No. 5, Dade county, were purchased by Duke M. Farson of Chicago at 100.18.

Fla., Miami.—Bids will be received until noon Aug. 13 for \$25,000 6 per cent. bonds Lemon City Special Tax School Dist. No. 3, Dade county; dated Oct. 1, 1913; maturity Oct. 1, 1918 to 1938, inclusive. Address County Board of Instruction, R. R. Hall, Secy. Further particulars will be found in the advertising columns.

Fla., Tampa.—\$60,000 5 per cent. school bonds Dist. No. 45, West Tampa, have been voted. Denomination \$1000. Marshall Moore is Secy. Board of School Trustees, Hillsborough county.

Fla., Tampa.—\$225,000 Tampa Special Tax Dist., Hillsborough county, bonds have been purchased by Clarence L. Zeller, representing Weil, Roth & Co., Cincinnati, at \$1150 premium and accrued interest.

Fla., Tampa.—Election is to be held Aug. 13 to vote on \$500 of 6 per cent. bonds Special Tax School Dist. No. 12, Hillsborough county. Marshall Moore is Secy. Board of Public Instruction, Hillsborough county.

Fla., Brunswick.—\$62,000 5 per cent. refunding bonds are to be issued; denomination \$1000; dated Jan. 1, 1914; maturity July 1, 1944. Address The Mayor.

Fla., Brunswick.—Bids will be received until 3 P. M. Sept. 16 for \$30,000 5 per cent. fire department equipment and sewerage system extension bonds; denomination \$1000; maturity Oct. 1, 1914, with April 1, 1915, coupon attached. J. Hunter Hopkins is

Mayor. Further particulars will be found in the advertising columns.

Ga., Cityview.—\$8000 11-30-year school, \$6000 19-30-year sewer and \$5300 14-30-year street-improvement 5 per cent. bonds recently voted have been purchased by local investors. Address The Mayor.

Ga., East Point.—Bill has been introduced in the Legislature providing for an issue of \$30,000 school bonds. Address The Mayor.

Ga., Gay.—\$10,000 6 per cent. 20-year bonds Gay-Oakland School Dist., Meriwether county, have been purchased by Robinson-Humphrey-Wardlow Co., Atlanta.

Ga., Macon.—\$250,000 road and bridge and \$150,000 hospital bonds are to be issued by Bibb county, and election will probably be held Aug. 19. Bridges Smith is Mayor.

Ga., Pavo.—Electric light bonds are voted. Address The Mayor.

Ga., Pearson.—Election is to be held Aug. 22, it is reported, to vote on \$10,000 6 per cent. municipal school-building bonds; denomination \$500; maturity 1935 to 1944, inclusive. F. E. McNeal is Mayor.

Ga., Savannah.—\$200,000 auditorium bonds will soon be offered. Address The Mayor.

Ga., Thomasville.—\$20,000 4½ per cent. school bonds have been validated by the Supreme Court and will now be sold at par; denomination \$500; maturity \$2000 per year, beginning 1934. Address W. E. Beverly. These bonds supplement a recent issue of \$40,000.

Ga., Waycross.—Millwood Dist., Ware county, has voted \$3000 school-building bonds. Address County School Commsr.

Ga., West Point.—The \$10,000 auditorium bonds recently voted are 20-year 5 per cents. John T. Johnson is Mayor.

Ky., Madisonville.—\$3900 6 per cent. street-improvement bonds have been purchased by the Kentucky Bank & Trust Co. of Madisonville.

La., Breau Bridge.—Bids will be received for \$12,000 of 5 per cent. electric-light and water-works-extension bonds until Aug. 20. C. C. Rees is Mayor.

La., Plaquemine.—Election is to be held Sept. 1 to vote on \$60,000 40-year Samstown Dist., Iberville parish, bonds. Address Police Jury.

Md., Hancock.—Election is to be held Aug. 4 to vote on \$30,000 water-works and sewerage bonds. Address Commsrs., Washington County, Hagerstown.

Md., Hurlock.—\$45,000 sewer and water bonds are voted. Address Town Commsr.

Md., Rising Sun.—The election Aug. 3 is for purpose of voting on \$25,000 of light and water bonds. Address The Mayor.

Miss., Gulfport.—Bids will be opened Aug. 1 for \$4650 of an authorized issue of \$8000 6 per cent. 10-20-year bonds Jackson-Harrison Counties Consolidated School Dist. Address John J. Murphy.

Miss., Macon.—Election is to be held in Noxubee county Aug. 1 to vote on \$3500 bonds Salem Consolidated School Dist. and \$500 Lynn Creek Consolidated School Dist. John A. Tyson is Clerk, Board of Supvrs.

Miss., Yazoo City.—Bids will be received until 8 P. M. Aug. 10 by H. W. McCormick, City Clerk, for \$100,000 5 per cent. 19-year average bonds.

Mo., Brunswick.—\$12,000 paving bonds are voted. Address The Mayor.

Mo., Butler.—Bids will be received until 6 P. M. Aug. 3 by H. E. Cook, Mayor, for \$75,000 5 per cent. 20-20-year water bonds.

Mo., Cartersville.—\$10,000 school bonds have been purchased by First National Bank of Joplin at par.

Mo., Joplin.—The report that an election is to be held in August to vote on bonds is denied by the Mayor.

Mo., Moberly.—\$87,000 school district building bonds defeated. Address The Clerk.

Mo., Montrose.—Bonds for electric-light plant are voted. Address The Mayor.

Mo., Neosho.—Bids will be received until 2 P. M. July 30 by F. A. Taclct, City Clerk, for \$60,000 5 per cent. 20-year water-works bonds. Denomination \$1000. Dated Aug. 1, 1914.

Mo., North Kansas City.—\$5000 6 per cent. 5-year bonds Clay County School Dist. No. 74 have been purchased by the Commerce Trust Co., Kansas City; denomination \$500; dated July 15, 1914.

Mo., Rockport.—\$12,000 6 per cent. water-works bonds have been purchased by John E. Sutherlin, Kansas City, Mo., at par and interest; denomination \$500; dated July 15, 1914; maturity 1919 to 1934.

Mo., Rolla.—\$27,500 school district bonds

will soon be voted on. Address Board of Trustees.

Mo., St. Charles.—\$90,000 park bonds are voted; Chas. H. Kansteiner, City Clerk.

N. C., Durham.—Bids will be received until noon Aug. 4 by Geo. W. Woodward, City Clerk, for \$60,000 4½ per cent. 15-year sewerage bonds; denomination \$1000; dated July 1, 1916.

N. C., Greensboro.—\$100,000 5 per cent. 30-year street-improvement bonds are voted; denomination \$1000. Address The Mayor.

N. C., Henderson.—\$55,000 6 per cent. bonds Forkeddeer Drainage Dist. No. 1, Chester county, have been purchased by Farmers & Merchants' Bank of Henderson at par and interest.

N. C., Kinston.—All bids received July 21 for \$100,000 5 per cent. 30-year sewer and paving bonds were rejected, and bonds will now be sold at private sale. W. B. Coleman is City Clerk.

N. C., Lillington.—\$20,000 Lillington, \$20,000 Upper Little River township and \$10,000 Hector's Creek township, Harnett county, road bonds are voted. Address County Commsr.

N. C., Raleigh.—City Commsrs. have voted to issue \$75,000 5 per cent. water bonds, and bids for same will be opened Aug. 10; denomination \$1000; dated July 1, 1914; maturity July 1, 1944. Jas. D. Johnson is Mayor.

N. C., Southport.—Town Creek, Brunswick county, will vote Aug. 18 on \$10,000 road bonds. Northwest and Smithville townships recently voted \$25,000 of school bonds. Address County Commsr.

Ola., Montevallo.—\$10,000 6 per cent. 10-year bonds are being offered for sale. J. M. Reynolds is Mayor.

Ola., Tulsa.—\$10,000 boulevard bonds have been sold as follows: City, \$6000; Central National Bank, Exchange National Bank, First National Bank and Merchants and Planters' Bank, each \$1000. Address The Mayor.

S. C., Allendale.—\$65,000 5½ per cent. 20-40-year light and sewer bonds were purchased by J. H. Hisman & Co., Atlanta; denomination \$1000; dated July 1, 1914.

S. C., Cowards.—Election is to be held to vote on \$10,000 school-building bonds. Address Town Commsr.

S. C., Denmark.—Light bonds have been voted. Address The Mayor.

S. C., Florence.—\$3000 Gaskins Dist., Florence county, school bonds defeated; J. B. McBride, County Supvr.

S. C., Manning.—\$10,000 sewerage and \$30,000 water-works 6 per cent. 20-40-year bonds are voted. Address The Mayor.

S. C., Mullins.—\$12,000 6 per cent. 20-year high-school bonds have been purchased by C. N. Malone & Co., Asheville, N. C., at \$873 premium and accrued interest; denomination \$1000; dated June 2, 1914; maturity 1934. Address F. Chalmers Rogers.

S. C., Westminster.—Election is to be held within 30 days to vote on light and water bonds. Address The Mayor.

S. C., Walterboro.—\$18,000 water-works and \$12,000 5 per cent. sewer 20-40-year bonds are voted. W. B. Ackerman is Mayor.

S. C., Winnsboro.—Election is to be held Aug. 4 to vote on \$100,000 water, sewer and electric-light bonds. C. P. Coleman is Mayor.

Tenn., Carthage.—\$10,000 6 per cent. 10-30-year high-school building bonds were voted July 18; denomination \$500 and \$1000. Bids will be opened about Sept. 1. Address F. E. Robinson, Treas. A. C. Read is Mayor.

Tenn., Chattanooga.—\$4237.08 6 per cent. 14-year bonds have been purchased at par, accrued interest and premium, of 51.27 by the Security Savings Bank & Trust Co., Toledo, O.; dated June 24, 1914. T. C. Thompson is Mayor.

Tenn., Chattanooga.—\$4237.08 6 per cent. 14-year bonds have been purchased at par, accrued interest and premium, of 51.27 by the Security Savings Bank & Trust Co., Toledo, O.; dated June 24, 1914. T. C. Thompson is Mayor.

Tenn., Halls.—\$25,000 6 per cent. 25-year water bonds have been purchased by Stacy & Braun, Toledo.

Tenn., Lexington.—The election to vote on \$150,000 Henderson county road bonds is to be held Aug. 6. Address County Commsr.

Tenn., Linden.—The \$100,000 Perry county railroad-aid bonds recently voted are to be issued and delivered to Allen W. Jones of Augusta, Ga., when the proposed road is constructed through the county.

Tenn., New Bern.—Bids will be received until 2 P. M. Sept. 1 by H. J. Swindler, Mayor, for \$30,000 6 per cent. 20-year school bonds; denomination \$1000; dated Sept. 1, 1914.

Tenn., Park City, P. O. Knoxville.—City proposes to issue improvement bonds. John M. Daily is Mayor.

Tenn., Ripley.—Bids will be received until

noon Aug. 3 for \$15,000 5 per cent. 20-30-year sidewalk and street-improvement bonds; denomination \$500. J. R. Johnston is City Treas.

Tenn., Rockwood.—\$40,000 5 per cent. 30-year school bonds have been purchased at par by Ulen & Co., Chicago.

Tenn., Wartburg.—Bids will be received until 11 A. M. Aug. 17 by Sherman T. Kimball, Secy. Finance Com., Deer Lodge, for \$50,000 of an issue of \$270,000 5 per cent. 20-year Morgan county pike bonds.

Tex., Austin.—The Atty.-Gen. has approved the following securities: \$2000 5 per cent. 10-20-year bonds Rusk county Common School Dist. No. 29; \$11,000 5 per cent. 10-40-year bonds Leonard Independent School Dist., Fanin county; \$2000 Dist. No. 37 and \$300 Dist. No. 31 5 per cent. 10-20-year Anderson county school bonds; \$11,000 5 per cent. 10-40-year Leonard Independent School Dist. City Clerk.

Tex., Bonham.—Election is to be held to vote on \$10,000 5 per cent. 10-40-year school bonds. Address The Mayor.

Tex., Refugio.—Refugio county is offering for sale the following school bonds: \$10,000 Common School Dist. No. 10, \$10,000 Common School Dist. No. 5 and \$9000 Woodsboro Independent Dist. Leslie Adkins is County Judge.

Tex., Brenham.—\$30,000 water and sewer bonds are voted. Address The Mayor.

Tex., Bryan.—Bids will be received until 10 A. M. Aug. 1 by City Secretary for \$12,000 5 per cent. 20-40-year street bonds; denomination \$500; dated May 1, 1914.

Tex., Bonham.—\$10,000 high-school building and \$5000 crematory bonds are voted. Address The Mayor.

Tex., Denton.—\$300,000 Denton county road bonds defeated.

Tex., Houston.—\$8000 bonds School Dist. No. 24, Harris county, were recently voted. Address County Commsr.

Tex., Lampasas.—\$14,000 Lampasas county bridge bonds are voted. Address County Commsr.

Tex., Mount Auburn, P. O. Dallas.—Election is to be held to vote on \$10,500 school-house bonds. Address The Mayor.

Tex., New Boston.—\$15,000 5 per cent. 20-40-year water bonds have been purchased by J. B. Oldham, Dallas, at a premium of \$500.

Tex., Port Arthur.—\$10,000 fire-alarm system bonds are voted. Address The Mayor.

Tex., Roaring Springs.—\$17,000 school district building bonds are voted. Address Board of Education.

Tex., San Angelo.—\$15,000 5 per cent. 5-10-year street and bridge bonds have been sold. Address The Mayor.

Tex., San Angelo.—Bids will be opened on Aug. 24 for \$80,000 5 per cent. 1040-year high-school bonds; dated May 1, 1914; maturity May 1, 1954. Address Concho Valley Loan & Trust Co., Treas., City of San Angelo.

Tex., San Antonio.—\$20,000 10-30-year Dist. No. 25 and \$20,000 10-20-year Dist. No. 41, Bexar county school 5 per cent. bonds were voted July 8. Address County Commsr.

Tex., Victoria.—Election is to be held Aug. 14 to vote on bonds Road Dist. No. 1, Victoria county. Address County Commsr.

Va., Charlottesville.—Bids will be received until noon July 30 for \$80,000 4½ per cent. 20-year refunding sewer bonds; denomination \$1000. A. V. Conway is Mayor and business manager.

Va., Elkton.—\$6000 6 per cent. 2-5 year school-building bonds have been voted and bids for same are now being received; denomination \$500. E. H. Harrison is Mayor and W. H. McVeigh Recorder.

Va., Pulaski.—Election is to be held Aug. 22 to vote on \$80,000 street bonds. Address The Mayor.

Va., Richmond.—The issuing of \$500,000 short-term bonds has been approved by the Council Finance Com., proceeds to be used for street improvements.

Va., Rocky Mount.—Bids will be received until Aug. 15 by W. A. Belcher, Town Recorder, for \$40,000 5½ per cent. water and sewer bonds.

W. Va., Elkins.—\$125,000 5 per cent. municipal bonds defeated.

W. Va., Madison.—Bonds for water-works are voted. Address John B. Hager.

W. Va., St. Marys.—Bids will be received until 8:30 P. M. Aug. 5 by J. H. McBridge, City Clerk, for \$12,000 5 per cent. 10-34-year water-works bonds.

W. Va., White Sulphur Springs.—\$8000 6 per cent. 15-year water and sewer bonds were purchased at \$57 premium by Hanchett Bond Co., Chicago.

**Merchants-Mechanics National Bank**  
 South and Water Sts. BALTIMORE MD  
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We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

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 Circular, Band and Cylinder Saws, New Roller Saw Swages and Sharpeners  
 Are unexcelled in Europe or America. We use the best steel, the finest equipment, and have sixty years behind us.  
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### The National Exchange Bank

OF BALTIMORE, MD.  
 Hopkins Place, German and Liberty Streets  
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August 9th, 1913. Surplus and Profits, \$764,091.00

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INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.

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**FOR SALE** Timber, Coal, Iron, Ranch and Other Properties  
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United States Depository and Disbursing Agent

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who reads and heeds it, is the possible worth of the book we send for 6c. postage.

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# Classified Opportunities

## MEN WANTED

**WANTED**—A combination electrical and water-works engineer, very large plant, to handle both combined; must be strictly sober. This plant cost one hundred and fifty thousand dollars. Apply to Joe Baker, Mayor, Dothan, Ala.

**WANTED**—Live agents on a commission basis to handle full line of vises and other machinists' and plumbers' tools. Good opportunity for men calling on the shops and industries of the South and Southwest. Address "Vises," care Manufacturers Record, Balto., Md.

**WANTED**—Export plumbers, sheet-metal and hardware men, and electricians to take off quantities from plans. Builders' Purchasing Bureau, San Antonio, Texas.

**WE WANT** an aggressive man, who has established trade in the Southern territory, to represent us in the sale of a complete line of mechanical rubber goods, including many specialties that are favorably known in the South and elsewhere. We are willing to pay a good salary to the right man, but references, past record and ability to sell goods must stand the acid test. Address No. 1584, care Manufacturers Record, Balto., Md.

**THE LANCASTER (S. C.) CHAMBER OF COMMERCE** is open for an experienced secretary that has the qualifications of a good mixer. No other need apply. J. B. Mackrell, Acting Secretary.

**WANTED**—A competent office man in a successful municipal contracting company to take active charge of office and finances; must take some interest in the business. Address No. 1588, care Manufacturers Record, Balto., Md.

**WANTED**—Manufacturers' agents now calling on architects, contractors, etc., can secure a valuable agency for well-established house. To right men we will give a liberal commission contract, turn over customers, leads in territory and co-operate in getting new business; want men who can build up and hold wholesome staple business. For full details write No. 1589, care Manufacturers Record, Balto., Md.

**WANTED**—A man with \$15,000 to \$20,000 to take an interest in large wholesale and retail hardware and builders' supply company as its secretary, which has been in operation for more than fifty years. Present owner, an old bachelor, has made his fortune in this business and desires to retire. Splendid opportunity for experienced man. Address P. O. Box 179, Richmond, Va.

**UNDERSIGNED COUNSEL** will confidentially negotiate preliminaries for important executive, technical, administrative and professional positions insuring strictest privacy. Not an agency, but a highly-endorsed, high-grade method of negotiating preliminaries only, for \$3000 to \$12,000 men. Send address only for explanation. R. W. Bixby, Lock Box 134-E6, Buffalo, N. Y.

**WANTED**—Representatives to handle our Armo Metal Silos and K. D. Tanks, made of rust-resisting pure iron. State experience and territory wanted. Address The C. C. Fouts Tank & Silo Co., Middletown, Ohio.

**YOUNG MEN** familiar with mill supply and jobbing trade to represent manufacturer of new and successful line of patented tools. Give experience and territory covered. No. 1588, care Manufacturers Record, Balto., Md.

**ARE MANUFACTURING** Hoover Disc Grinder and Hoover Axle Set, both of which will eventually be in every blacksmith shop. Want local representatives to handle on commission and manufacturer's agent to place with their salesmen. Patents for both of these also for sale. Address The Hoover Manufacturing Co., Beloit, Kansas.

## AGENCIES WANTED

**WANTED**—One large specialty or supply house in every city to act as our distributor for the best flat enamel wall finish on the market. We have been successfully marketing this for three years to the large consumer, but now want a strong supply house to represent us in each city. Will offer splendid profit and co-operate in the sale in your territory. For full details write No. 1590, care Manufacturers Record, Balto., Md.

**WANTED**—Manufacturers' accounts, all lines, consignments solicited, goods introduced. Manufacturers wanting live connections in West Florida address No. 1579, care Manufacturers Record, Balto., Md.

**WANTED**—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concern; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

**WANTED**—By manufacturers' agent handling building specialties, several additional lines. Address No. 1576, care Manufacturers Record, Balto., Md.

**YOUNG MAN**, knowing 4 languages, having traveled Western and Middle Europe and familiar with European business usages, seeks position as general foreign agent; best references. J. H. Gruno, 619 Third Ave., Highland Park, Va.

## RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c per line; 300 lines, 16c per line; 500 lines or more, 15c per line.

## DRAFTING

**STRUCTURAL STEEL DETAILS**.—Drafting work wanted for New York office. Address Henry P. Webb, Box 33, Stapleton, N. Y.

## MODELS

**MODELS MADE FOR INVENTORS**.—General machine work. Designing and perfecting. Developing automatic devices and machinery. In a position to do all kinds of light tool and machine work. Prices reasonable. Estimates cheerfully given. Ideal Machine Works, 64 Ann Street, New York City.

## BUSINESS OPPORTUNITIES

**PRACTICAL PARTNER WANTED AT ONCE**—\$25,000 will buy one-half interest in hardwood plant, assets over \$100,000, no debts, located on the Shenandoah branch of N. & W. R. R.; mill fully equipped, 12 miles standard-gauge railroad, now in operation; only an experienced active partner wanted to take charge and manage operation; might sell entire operation; estimated profits, \$50,000 yearly. Write for particulars. G. S. Briggs, Norfolk, Va.

**A SUBSTANTIAL corporation** wants reliable party to establish office and manage salesmen; should pay \$3000 to \$15,000 annually; \$300 to \$1500 will finance business; you handle own money; references exchanged. Sales Manager, 406 Fisher Bldg., Chicago, Ill.

**BRICK PLANT TO LEASE**.—Located on main line of C. & O. R. R. and Kanawha River, one mile above city. Can make iron-spot, flash buff, red and gray brick shingles and hollow tile. Coke oven. No limit to the possibilities of this plant. Seam is 7 to 12 feet in thickness. Demand far greater than supply. Do not write unless you want it. No. 1567, care Manufacturers Record, Balto., Md.

**FOR SALE**—Long-time lease and producing coal mine on two railroads near McAlester, Okla.; two workable seams; good mining conditions; high-grade coal commanding good market; railroad normally takes out at favorable price. Only \$20,000. Terms to responsible parties. Mine will pay out in short time. Box 176, Fort Smith, Ark.

**FOR SALE—LITHIA INN**.—Epson-lithia-Iron water, same as famous Tate Springs; water clear as crystal; supply inexhaustible; keeps perfectly; does not precipitate; 350 yards from Sou. depot at Newport, town of 4000 population; located in mountains of East Tennessee on the French Broad River; modern conveniences; fishing; bathing in river; trains every hour in the day. This water cures stomach, liver, malaria, rheumatism, all forms of kidney trouble, nervousness, alcoholism and general debility. No mosquitoes; no malaria; altitude 1600 feet. Anyone interested in the most paying resort proposition in the U. S. address Miss Martha Wood, Newport, Tenn.

**WANTED**—Location for factory to make a vermin-proof trunk; process will be patented; must be a good town where local people will be interested; inexpensive, but a ready seller with a good profit. Address No. 1587, care Manufacturers Record, Balto., Md.

**OWNER** of a patent covering a gasoline engine desires to get in touch with railroad and interurban companies, gas-engine manufacturers and builders of freight and passenger cars with a view to manufacturing gasoline-propelled cars for passenger and freight service, as the engine indicates great efficiency for this class of work. Address No. 1572, care Manufacturers Record, Balto., Md.

**FOR SALE**—New sawmill, 25,000 capacity, drykiln and well-equipped sash and door factory in good city; 4 railroads; unlimited supply yellow pine accessible; partners disagreed; will sell one-third or all at right price and good title; quick action necessary. Thos. M. Ferguson, Hattiesburg, Miss.

**PARTNER WANTED TO MANUFACTURE VENEER**.—We own in South Carolina fifty million feet of very fine red gum timber, also thirty million feet of other hardwoods and pine. Have complete band mill, drykilns and logging railroad. We wish to manufacture the gum into veneer, and desire to interest us with us a party that is thoroughly familiar with the manufacture and sale of veneer. Must be able to take one-half interest in timber and plant. Large demand for gum veneer in home territory. Favorable freight rates North and East. Address No. 1578, care Manufacturers Record, Balto., Md.

**WE HAVE** two lumber plants in the South for sale. Also, number of other bargains. Before buying or selling a business consult Southern Brokerage Co., Box 107, Statesville, N. C. Business brokerage is our specialty.

**MASTER PLUMBER AND STEAMFITTER**, with experience in handling all kinds of work in this line, desires to hear from parties or locality where there is an opening for this business; can furnish best of reference as to ability and character. Address No. 1581, care Manufacturers Record, Balto., Md.

**CLAY TRACT** of 41 acres on Tidewater & Western R. R. at crossing of county road about one mile from Bermuda on James River, known as Epps' Crossing. Tract has been tested over its entire surface, showing clay exists to the depth of 4½ feet and covers entire property with overburden of 3 to 9 inches. The State Geologist reports as being the best found on the coastal plain, suitable for pipe, tile, pavers, fireproofing and stiff-mud and dry-press face brick. Burns a dark cherry red, drying easily and safely.

This valuable clay bed, with a manufacturing site at Chester, for sale reasonable. The manufacturing site, consisting of between 3 and 4 acres, is on A. C. L. R. R. at junction of Tidewater & Western R. R., affording splendid shipping facilities to North or South by A. C. L. N. & W., S. A. L. T. & W., or by water. With proper development should prove a good money-maker.

Full particulars upon request. Address Central Realty Co., Richmond, Va.

**INFORMATION** any subject. Congress, corporations, investigations, Govt bids, trade opportunities. Miscellaneous data and statistics. Researches. Daily news letter. General Information Bureau, Box 263, Washington, D. C.

**WILL SELL** 2080 acres good land Northeast Mississippi, \$10 an acre, or prefer to borrow \$10,000 ten years, 5 per cent. interest. Ike A. Chase, Memphis, Tenn.

**WANTED**—To connect with individuals who will be willing to invest \$15,000 in a very successful graphite company in the best section in the South. The company is most successful in selling its product, and with additional capital can enjoy increased sales at a large profit. The best references can be given. Address P. O. Box 732, Atlanta, Ga.

## INDUSTRIES WANTED

### PACKAGE FACTORY AND STAVE MILL

**PACKAGE FACTORY AND STAVE MILL** will find Bolton, Columbus county, North Carolina, a profitable location; plenty of suitable timber available; growing local demand for finished product; good railroad facilities. Free location will be given responsible concern. Address John Innes, Secretary Bolton Chamber of Commerce, Bolton, N. C.

### MISCELLANEOUS

**BLUEFIELD, WEST VIRGINIA**, the gateway to the vast Pocahontas coal fields, and the distributing point for half a million discontented laborers, needs an overall factory, a mine implement factory and needs a brick plant. Address C. T. Boykin, Secretary Bluefield Chamber of Commerce.

**FREE SITE** given for factory; electric power cheap; no city tax; 2 railroads; plenty of labor. Berkeley Land Company, Martinsburg, W. Va.

**NORTH EAST, MARYLAND**, has free land and other lend-a-hand inducements to offer for new industries. Midway between Baltimore and Philadelphia. Pennsylvania and B. & O. Railroads. Write to the Board of Trade, North East, Md.

**FREE**—Brick clay and shale deposits, very extensive, and situated well for working and as regards markets; will be donated by railroad running through same to any responsible party that will erect and operate a 10,000 daily capacity plant. Address J. R. McComell, Industrial Agt. R. & C. Ry. Carthage, N. C.

**AN UNUSUAL OFFER**.—The owner of a 26-mile railroad will give a 15 per cent. interest in the road to a manufacturing concern locating on the line, whose freight will be substantial. A splendid site on a river, capable of developing 1200 continuous horsepower, will also be donated. The road has good main line connections with generous percentages. It is earning a surplus and is in a rapidly developing territory rich in possibilities. References will be required with answers to this advertisement. Address No. 1565, care Manufacturers Record, Balto., Md.

## INDUSTRIAL PLANTS FOR SALE

**DISTILLED WATER AND BOTTLING PLANT** FOR SALE—Distilled water and bottling plant, \$60,000, Houston, Texas; well established; \$25 daily profits; fine prospects. For particulars address A. J. Elliott, 1919 Crawford St., Houston, Texas.

# Classified Opportunities

**GRANITE QUARRY AND CRUSHING PLANT**

GRANITE QUARRY and rock-crushing plant, complete and operating; located on main line of railroad and close to good market; famous Georgia granite. Address No. 157, care Manufacturers Record, Balt., Md.

**MILLWORK PLANT AND PLANING MILL**

MILLWORK PLANT AND PLANING MILL FOR SALE; practically new; in thriving town of 16,000 inhabitants; water and rail facilities. Pleased to correspond or interview interested parties. Address No. 156, care Manufacturers Record, Balt., Md.

**MINERALAND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES**

20½ ACRES, kaolin deposit between 35 and 50 acres, \$15,000. 20½ acres Fuller's earth deposit, \$15,000. Southern Ins. & Realty Co., Georgia Life Bldg., Macon, Ga.

FOR SALE—455 acres good farm land with round pine timber, hardwood and good bed phosphate, in Secs. 18 and 19, Tp. 7R, 16, Alachua county, Fla., on Santa Fe River; good stock section; fine hunting and fishing. Perfect title. Price \$4000; ¼ cash and balance in 1, 2 and 3 years. Reasonable discount for all cash. Apply to J. B. Johnson, Live Oak, Fla.

IN the territory near Semmes, Alabama, within 20 miles of Mobile, we have several thousand acres of good land for sale at extremely low price. This is where Northern oil men are now wild-cutting, with good prospects for oil. W. W. Woodruff, Mobile, Ala.

FOR SALE ON REASONABLE TERMS: 25,000 acres, Escambia county, Alabama, especially adapted for colonizing.

15,000 acres highest grade Southern hard-wood timber, located Southern Mississippi.

14,000 acres, located in Southern Alabama; about 30,000,000 ft. L. L. yellow pine on 7500 acres of this. Land is especially desirable for agricultural purposes.

24,000 acres coal and timber land, located on Frisco Railroad west of Birmingham.

5000 acres of hardwood timber, located on the Alabama River not far from Mobile.

5000 acres, especially desirable for citrus fruit growing, including a townsite located just across the bay from Mobile.

10,000 acres, located in North Baldwin, especially adapted for a ranch.

I own and control all of the above-described properties, and in addition I handle properties as a broker, so that I am in a position to meet most any requirements in Southern acreage property. Address H. H. Weefel, Jr., Mobile, Alabama.

**MICA MINES FOR SALE**

TWO MICA MINES FOR SALE.—(1) High-grade stove mica, developed, 20 acres in tract; price \$3000. (2) Tract embracing 15 acres, containing mine of electric mica, very productive; mine is developed; price \$3000. On property are deposits of high-grade kaolin. Both mines within ½ miles of Franklin, N. C., on Tallulah Falls Rail-way. Address T. J. Johnston, Franklin, N. C.

**MILL SITE AND CLAY BEDS**

MILL SITE AND CLAY BEDS, estimated 2,000,000 cubic yards choice clay, suitable by actual test, for manufacturing common, hollow builders' brick and drain tile, etc.; located less than 40 miles from Houston, Tex.

Fuel oil and wood in abundance at nominal price, or can electrify at about 3½ cents per kilowatt hour. A rare opportunity for safe and profitable investment. Capital required to own and install modern up-to-date plant with capacity of 100,000 brick per day, \$80,000. Write, for full particulars, Whisler Realty Co., Rosenberg, Texas.

**BRICK CLAY PROPERTY**

BRICK CLAY.—Attention, Brick Men! Have located within five miles of Atlanta large supply fine brick clay; excellent railroad facilities. This property is splendid location for Southern market. Can be bought reasonably, considering actual value. Estate of James E. Lynch, P. O. Box 519, Atlanta, Ga.

**TIMBER FOR SALE**

FOR SALE—Hardwood timber on 5000 acres of mountain land immediately on railroad; principally oak, chestnut, hemlock and poplar; pay for as cut and sold. Address North Carolina Talc & Mining Co., Hewitts, N. C.

ATTRACTIVE TIMBER PROPOSITION. 10,000,000 feet gum, poplar, pine, cypress and other timbers, located Eastern North Carolina, for sale. Address No. 1591, care Manufacturers Record, Balt., Md.

**TIMBER LAND FOR SALE**

A FEW GOOD TRACTS in Southern States at prices attractive for investment or operation. Hemlock, spruce, oak, poplar, gum, cypress. Real Estate Investment Co., 86 Connecticut Ave., Washington, D. C.

NO. 547—VIRGINIA TIMBER TRACT—100 ACRES—\$3500; located in Albemarle county, Texas, all under fence and cross-fenced; shallow-well territory; large 2-story 17-room residence and other buildings; lots corrals, sheds, etc.; 80 per cent. fine tillable land, chocolate loam mesquite, well drained, etc. Price \$13.50 per acre; \$3 per acre and the balance on terms of \$1 per acre per year, 6 per cent. interest rate. A fortune in this. Whisler Realty Co., Rosenberg, Texas.

TWO HUNDRED THOUSAND (200,000) acres timber land in Florida, containing over 5,000,000 feet of original growth pine; has been cruised by expert; placed on the market for the first time at a very low figure.

South Carolina timber; 15,000 acres on the Atlantic Coast Line and Southern Railroad. Estimated 65,000,000 feet short-leaf pine.

For price and full particulars apply to Johnson's American and Foreign Real Estate Exchange, 945 Pennsylvania Avenue, Washington, D. C.

5400 ACRES of virgin hardwood timbered land in East Tennessee, \$10 per acre; would exchange. Farm Realty Co., 828 Jefferson Co. Bank Bldg., Birmingham, Ala.

FOR SALE—5000 acres of virgin hardwood timber near the Texas & Arkansas line. Address F. M. Greene, Atlanta, Texas.

TIMBER TRACTS located for manufacturers or investors by practical timbermen. Correspondence solicited. Jo A. Parker, Farms, Mo.

FOR SALE—32,000 acres yellow pine De-Soto Co., Fla.; will cut about 70,000,000 feet pine and 5,000,000 feet cypress. Reasonable terms. Address Box 135, Wauchula, Fla.

**FARM AND TIMBER LANDS**

FOR SALE—Farm and Timber Land in Southeast Georgia. Land produces two and three crops per year. Especially adapted to growing cotton, corn, alfalfa and, in fact, anything that grows in the Southern States. If interested, write us for full information. South Georgia Farms & Realty Co., Fitzgerald, Ga.

724 ACRES on S. A. L. Railroad will cut as follows:

2,500,000 feet pine at \$2.50 M.....	\$6,250.00
3,000,000 feet hardwood at \$2 M.....	6,000.00
2,000,000 feet large cypress at \$3 M.....	6,000.00
40,000 cypress trees at 10c. each.....	4,000.00
10,000 cords of wood at 25c. cord.....	2,500.00
10,000 cypress poles at 25c. each.....	2,500.00

Total for timber.....\$27,250.00  
Now, listen! Owing to other interests that will not let owners attend to this tract, we can sell this tract for \$27,500. When timber is taken off you will have as fine cattle ranch and farming land as you want. Remember, \$27,500 in fee. Southern Insurance & Realty Co., 314 Ga. Life Bldg., Macon, Ga.

FOR SALE—About 20,000 acres of land in in Eastern North Carolina, in close proximity to railroad. This land contains about 60,000,000 feet of pine and cypress timber. The land without the timber is splendid for farming. With the timber off it is worth the price asked for the whole. Timber, Box 1089, Norfolk, Va.

FIFTEEN THOUSAND FOUR HUNDRED ACRES of good truck and citrus-fruit land, located in Santa Rosa county, twenty miles east of Pensacola. Seven thousand acres of this land is covered with a heavy growth of long-leaf pine, which will cut about twelve million feet. Price three dollars per acre. W. H. Upp, Box 331, Pensacola, Fla.

FARM AND TIMBER LAND on the easy-payment plan; some small improved tracts; good for cotton, corn, alfalfa and grain. Prices from \$4 to \$25 per acre. W. Knight, Real Estate Dealer, Bigelow, Arkansas.

**OIL AND FARM LAND**

AN OIL WELL and fine alfalfa farm of 170 acres; well improved; fine water; all fine black bottom land; on railroad; have loading switch for alfalfa, which will also be used for shipping oil when well now drilling is brought in; write for particulars and price; land worth the money, to say nothing of oil prospects. Also, 730-acre fine corn and alfalfa farm at a bargain; oil prospect; very fine. W. P. Poland, Ardmore, Okla.

**RANCHES FOR SALE**

50,000-ACRE RANCH PROPERTY in West Texas; 95 per cent. choice tillable land; soil of best quality in shallow-well territory; improvements consist of 50 houses, 3000 acres under high state of cultivation, all fenced and cross-fenced; close to railroad and near county site; soil chocolate loam. Price \$14 per acre; one-half cash; balance, terms to suit purchaser, 6 per cent. interest rate.

16,000 ACRES, 50 miles east of San Antonio, Texas, 12 miles from railroad; has 23 artesian flowing wells on property; a flowing artesian well may be had on any acres of this property at from 100 to 350 feet; half of this property is under hog-hog fence; 3500 acres under high state of cultivation; has 52 houses; includes two large two-story residences, lots sheds, etc. Price \$25 per acre; will require about \$100,000 cash and the balance on easy terms at 6 per cent. interest rate; good townsite on property. Whisler Realty Co., Rosenberg, Texas.

26,000 ACRE RANCH in Duval county, Texas, all under fence and cross-fenced; shallow-well territory; large 2-story 17-room residence and other buildings; lots corrals, sheds, etc.; 80 per cent. fine tillable land, chocolate loam mesquite, well drained, etc. Price \$13.50 per acre; \$3 per acre and the balance on terms of \$1 per acre per year, 6 per cent. interest rate. A fortune in this. Whisler Realty Co., Rosenberg, Texas.

**ORCHARDS**

APPLE ORCHARDS, full grown, in this country will net from \$200 to \$400 per acre. I have a few shares of stock for sale in producing orchards, also some producing orchards for sale. Write for booklet and information. H. L. Alexander, Martinsburg, W. Va.

**MOUNTAIN ESTATE**

MOUNTAIN ESTATE, 30 miles from Asheville, 5 miles from Southern Railway, elevation 2000 to 3000 feet, mild climate, pure air, cold spring water, running brooks; comfortable log house of 4 rooms, stables and out-buildings; 20 acres in cultivation; 100 bearing apple trees, peaches, plums, grapes, blackberries, vegetable and flower garden; 2600 acres hardwood timber, oak, poplar, hickory, chestnut, pine, etc.; also, rhododendron, kalmia, azalea, dogwood, galax, trailing arbutus, mistletoe, squirrels, quail, wild turkeys, coons, possums. \$20,000; easy terms. Address Wm. M. Pratt, Marion, N. C.

**FRUIT, FARM AND TRUCK LANDS**
**ALABAMA**

FOR SALE—2965 acres in Tallapoosa county, Alabama; 1000 acres river bottom; pays 12 per cent. on investment; \$15 per acre. For particulars write Charles A. Stewart, Temple Court, Chattanooga, Tennessee.

**FLORIDA**

THE PALATKA FARMS COMPANY of Palatka, Florida, offers to homeseekers the very superior advantages of splendid soil, adapted to potatoes, corn and trucking, or that for oranges and grapefruit, or for combination of both, with location unsurpassed, lying along the beautiful St. Johns River, 2 miles of Palatka, an up-to-date city of 5000 population. It boasts of electric-light and gas plants, four railroads and cheap river transportation. Write for literature. P. J. Becks, Palatka, Fla.

FOR SALE—in heart of nice West Florida village, 25 acres of fine land, good buildings, 300 bearing orange and grapefruit trees, 700 younger; several hundred other fruit trees; a bargain. Write G. W. Hinsey, Apalachicola, Fla., for particulars.

19,000 ACRES of the very best farm and vegetable land South Florida; on R. R.; solid body; artesian water; easy terms; for a short time will offer for \$7.50 per acre; land retailing for \$100 per acre adjoining. G. C. Rogan, Lakeland, Fla.

THREE MONTHS FREE.—Subscription to the Indian River Farmer. For truckers, fruit growers, general farmers, and folks who want to know about Florida. Address Indian River Farmer, Dept. "V-1," Vero, Fla.

FOR SALE—100 acres choice fruit and garden land near depot; brick road being built to run close by; easy reach of Tampa, also Plant City; divided into 6-acre lots, each fronting 40-ft. road. N. D. Smith, 913 Florida Ave., Tampa, Fla.

PINEY POINT, the Deep-Water City. Other towns and would-be towns have to fight and wait for appropriations to get deep-water facilities.

Nature made it for us, and in addition gave us immunity from frost, for just north of Piney Point is the broad expanse of Tampa Bay.

Teracela Island and the Manatee River towns and farms have good water protection, but not deep water. We have both.

Also an abundant supply of artesian water for all purposes.

Nature laid the foundation. We are doing the rest. Will you join us? The Piney Point Land & Improvement Co., Palmetto and Piney Point, Fla. Jno. W. Jackson, Manager.

**GEORGIA**

15-ACRE PECAN AND TRUCK FARM for sale. Old age (89 years) and no heirs to leave it to my only reason for selling; near churches, schools, postoffice and R. R. station and one hour by rail to Jacksonville. Write P. O. Box 243, St. George, Ga.

**NORTH CAROLINA**

THE finest farm land in Moore county, the newly discovered tobacco field, will be sold at cost in any acreage by railroad owning the tract and anxious to develop territory; cleared and uncleared portions. Additional houses will be erected and long terms given. This is the best opportunity to get these lands cheap. For particulars write J. R. McConnell, Land and Industrial Agent, R. & C. Ry., Carthage, N. C.

FOR SALE—On Slocumb Creek, 17 miles below Newbern, my beautifully situated home with 550 acres of land; home can be used for a summer as well as a winter resort; land fine for truck; now mostly in timber. Price \$50 an acre. Come and see it now. William Buys, Havelock, N. C.

3500-ACRE FARM FOR SALE.—Lots of buildings; half open; fine for cotton and tobacco; one of the best in State; will bear close inspection. R. E. Prince, Raleigh, N. C.

**TEXAS**

100-ACRE FARM, well improved, high state of cultivation, 4 miles Riviera; best section South Texas; part cash, part trade or long time. Hal Runnels, Riviera, Tex.

**VIRGINIA**

FARMS, large and small, to suit purchaser, in the new bright tobacco belt, the finest lands in the State. Fine stock farms, good roads, schools, telephones, churches, fine water. These farms are situated around Alberta, the new town at the intersection of the Virginian and Seaboard railroads; also on the National Highway. For further information apply to Virginian-Seaboard Realty Co., Alberta, Va.

8 ACRES FINE TRUCK LAND, 6-room dwelling; good outbuildings, fine orchard, apples, peaches, plums, grapes, etc.; on Virginia Beach electric line, 5 minutes' walk from Lynnhaven station, \$2500; terms easy. Address H. V. Moulton, Duke, N. C.

FOR SALE—4300 acres good undeveloped farming and orchard land; good soil and convenient to railroad. Price \$5 per acre. Lane-Harris Corporation, Altavista, Va.

FARMS FOR SALE.—Large list Northern Virginia grazing, grain, fruit and poultry farms; colonial estates; \$500 to \$80,000; catalogue. B. F. Perrow, Remington, Virginia.

VIRGINIA, the ONLY just right climate. Elegant farms ten to thirty dollars acre. One-third cash, balance when convenient. J. E. Barrett, Carrsville, Va.

**FINANCIAL**

WANTED—\$25,000 at 6 per cent., three years, first mortgage real estate worth \$60,000 as collateral. "Orchards," Charleston, S.C.

**PATENTS AND INVENTIONS**

INVENTIONS developed by practical manufacturers. We have designed and manufactured the simplest and most complicated devices. References furnished. Russell Machine Co., Live Oak St., Dallas, Texas.

**PATENT ATTORNEYS**

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, Suite 40 Victor Building, Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks. Inventions are considered both from Engineering and Legal standpoints in my prosecution of patents. An experience of over 9 years as Examiner in U. S. Patent Office and over 6 years as Patent Expert in important patent suits are my especial qualifications. Reports upon validity and infringement. Send sketch of invention for advice.

PATENTS.—Herbert Jenner, patent atty. and mechanical expert, 606 F St., Washington, D. C. I report free of charge if a patent can be had and its exact cost. Send for circular.

VALUABLE INVENTIONS justify only best legal service. Consult Vernon E. Hodges, Attorney-at-Law, Barrister Bldg., Washington, D. C. Practice before the U. S. Supreme Court; all Circuit Courts; Courts of the District of Columbia, and the U. S. and Foreign Patent Offices exclusively. Continuous practice since 1886. Extensive experience with all classes of invention, representing lawyers, manufacturers and inventors in every State.

PATENTS THAT PROTECT.—Careful, honest work in every case. Patent your ideas; they may bring you wealth. 64-page book free. Fitzgerald & Co., 817 F street, Washington, D. C. Established 1878. Send for our book.

PATENT YOUR INVENTION.—Send sketch for free expert search and report as to patentability. Books on inventions and patents, and book of references from congressmen, manufacturers, bankers and inventors, sent free. John S. Duffie & Co., Patent Atty., 620 F St. N. W., Wash., D. C.

PATENTS THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Send sketch or model for free search of Patent Office records. Trade-marks registered. Watson E. Coleman, Patent Lawyer, 634 F St., Washington, D. C.

PATENT YOUR IDEAS.—\$9000 offered for certain inventions; book, "How to Obtain a Patent" and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F St., Washington, D. C.

PATENTS SECURED OR FREE RETURNED. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$10,000 offered for one invention; \$16,000 for others. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., Washington, D. C.

# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS

## GOVERNMENT PROPOSALS

**PROPOSALS FOR SHELL HOISTS, POWERED HOISTS, SHELL TABLES, MOTOR-DRIVEN PUMPS, AND FLOAT SWITCHES FOR FORTIFICATIONS.** Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 A. M., August 17, 1914, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 863) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. F. C. BOOGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C., July 15, 1914. Sealed proposals will be opened in this office at 3 P. M., August 26, 1914, for the construction, complete (including mechanical equipment, lighting fixtures, and approaches), of a one-story mezzanine-and-basement, stone and brick-faced building of 4000 square feet ground area; fireproof first floor and ceiling; composition roof, for the United States postoffice at Tupelo, Miss. Drawings and specifications may be obtained from the custodian at Tupelo, Miss., or at this office, in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

**TREASURY DEPARTMENT.** Supervising Architect's Office, Washington, D. C., July 22, 1914. Sealed proposals will be opened in this office at 3 P. M., September 2, 1914, for the construction, complete (including mechanical equipment, interior lighting fixtures, and approaches), of the two-story-and-basement building; ground area 3800 square feet; construction nonfireproof; stone and brick facing; composition and slate roof. Drawings and specifications may be obtained from the custodian of site at Fulton, Ky., or at this office, in the discretion of the Supervising Architect. O. WENDEROTH, Supervising Architect.

**GOVERNORS ISLAND, N. Y. H.**, July 22, 1914. Sealed proposals, in triplicate, for furnishing Forage and Straw required in Eastern Department during nine months commencing Oct. 1, 1914, will be received here until 10 A. M., Aug. 7, 1914. Information furnished on application to Department Quartermaster.

**U. S. ENGINEER OFFICE,** Galveston, Tex., July 13, 1914. Sealed proposals for dredging at Port Aransas, Tex., will be received at this office until 12 M. Aug. 12, 1914, and then publicly opened. Information on application. C. S. RICHE, Lt.-Col., Engrs.

**MISSISSIPPI RIVER COMMISSION,** Fourth District, U. S. Engineer Office, Queen & Crescent Building, 346 Camp Street, New Orleans, La., July 13, 1914. Sealed proposals for constructing and delivering one steel barge will be received at this office until 11 o'clock A. M., August 12, 1914, and then publicly opened. Information on application. C. O. SHERRILL, Major, Engineers.

**UNITED STATES ENGINEER OFFICE,** Galveston, Tex., July 16, 1914. Sealed proposals for placing riprap and soil with sand at Federal Quarantine Station, Galveston, Texas, will be received at this office until 12 o'clock noon August 15, 1914, and then publicly opened. Information on application. C. S. RICHE, Lt.-Col., Engrs.

**EXECUTIVE OFFICE, COMMISSION ON MEMORIAL TO WOMEN OF THE CIVIL WAR,** 1729 New York Avenue, Washington, D. C., July 20, 1914. Sealed proposals for the erection of the Memorial in this city will be received here until 12 o'clock noon Thursday, August 20, 1914, and then publicly opened. Information upon application. WM. W. HARTS, Colonel, U. S. A., Executive Officer.

## BOND OFFERINGS

## \$40,000 5½% Bonds

The Town of Rocky Mount, Virginia, will offer for sale on the 15th day of August, 1914, (\$40,000) forty thousand dollars water-works and sewerage bonds. Interest 5½ per cent., payable semi-annually.

Address bids to W. A. Beicher, Recorder Town of Rocky Mount, Virginia.

## Bond Sale

Montevallo, Ala.

The Town of Montevallo, Alabama, has bonds to the amount of \$10,000, with interest at the rate of 6 per cent. per annum, payable semi-annually, bonds to run ten years from July 2, 1914.

J. M. REYNOLDS,  
Mayor.

## PROPOSAL ADVERTISING INFORMATION

**RATE:** 20 cents per line per insertion.**PUBLICATION DAY:** Thursday.**FORMS CLOSE 9 A. M. Wednesday** Copy received later cannot be published until issue of following week.**NIGHT LETTER:** When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

## THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—20 cents per line per insertion.

## \$8500 Charlotte Co. (Va.) Bonds For Sale

Charlotte C. H., Va., July 20, 1914.

The undersigned, acting as a committee of the Board of Supervisors of the County of Charlotte, Va., offer for sale \$8500 of Charlotte County Bonds to provide for the building of a new jail, under the law in such case made and provided. Said bonds consist of 17 coupon bonds of \$500 each and accumulated interest from date of bonds, bonds bearing interest at the rate of 5 per cent. per annum, payable semi-annually, principal and interest payable at the office of the County Treasurer of Charlotte County, Charlotte Court House, Va. No bids received later than noon August 25, 1914. Said bonds dated July 1, 1914, run 40 years, with the option of payment in 20 years. A certified check of \$200 must accompany each bid. The committee reserves the right to reject any and all bids.

## \$100,000 Bridge Bonds

State of Mississippi, Chikasaw County.

Houston, Miss.

Notice is hereby given that the Board of Supervisors of said county and State will receive sealed bids until 12 o'clock M. on Monday, the 3d day of August, 1914, for the purchase of one hundred thousand dollars (\$100,000) in bonds of the county for the purpose of constructing bridges of the county. Said bonds to mature in 20 years, bearing interest at a rate not exceeding 6 per cent. per annum, payable semi-annually on the first day of February and August in each year. Said bonds to be dated August 1, 1914, and shall be non-optimal. Such bonds to be lithographed with interest coupons attached, and shall be in denominations of \$500 each, and shall be prepared and issued in accordance with Section 11 of Chapter 234 of the laws of Mississippi, 1912. That bids will be received on said bonds bearing 5 per cent., 5½ per cent., and 6 per cent. interest, and that bids will be received on said bonds in lots of \$25,000, and then on the entire issue. That the successful bidder shall furnish blank lithographed bonds without extra cost to the county, each bid to be accompanied by certified check for \$5000. That in the event satisfactory bids are not received, that the same will be sold at public outcry. The Board reserves the right to reject any and all bids.

Witness my signature this the 10th day of July, 1914.

H. E. BRANNON,  
Chancery Clerk.

## \$25,000 Lemon City (Florida) School Bonds

Sealed bids will be received by the undersigned at the office of the Superintendent of Public Instruction of Dade County, in Miami, on or before August 13, 1914, at noon, for all or any part of \$25,000 six per cent. building bonds of Lemon City Special Tax School District No. 3, dated October 1, 1913, maturing on October 1 as follows: \$500 annually 1918 to 1923; \$1000 annually 1924 to 1930; \$1500 annually 1931 to 1932; \$2000 annually 1933 to 1938. Principal and semi-annual interest payable at the County Treasurer's office.

Bonds will be prepared and certified as to genuineness by Columbia-Knickerbocker Trust Company, New York city. Purchasers will be furnished with the opinion of Caldwell, Masslich & Reed, attorneys, New York city, approving the validity of the bonds payable from taxes provided in and limited by the constitution and statutes. Bonds validated by the Circuit Court of Dade County.

All bids must be accompanied by certified check on an incorporated bank for two per cent. of the amount of bonds bid for. Bids must be on blank forms, which, with other information, will be furnished by said trust company or the undersigned. Bonds will be delivered on September 1, 1914, in Miami or New York, at the purchaser's option. The right to reject any and all bids is reserved. Dated July 13, 1914.

COUNTY BOARD OF INSTRUCTION.  
By R. E. HALL,  
Secretary.

## \$30,000 City of Brunswick (Ga.) 5% Bonds

Sealed bids will be received by the undersigned in the City of Brunswick, Ga., until Wednesday, September 16, 1914, at 3 o'clock P. M., for all or any part of thirty thousand dollars (\$30,000) 5 per cent. April and October coupon bonds; thirty-one thousand-dollar bonds of the City of Brunswick, Ga., due October 1, 1914, with April 1, 1915, coupon attached.

These bonds are to be issued for fire department equipment and extension of the sewerage system.

All bids must be marked "Bid for Bonds" and accompanied by cashier's or certified check for 2 per cent. of the face value of the bonds bid for, which will be applied on the purchase price if accepted, or returned if rejected.

Bidders must be prepared to accept bonds attached to draft for balance of the purchase price, not later than October 1, 1914.

The right is reserved to reject any and all bids.

J. HUNTER HOPKINS, Mayor.

Brunswick, Ga., July 27, 1914.

## Notice of Bond Sale

## \$79,000 5% VALIDATED REDEMPTION AND IMPROVEMENT BONDS OF THE CITY OF LAKE CITY (FLORIDA).

Sealed bids at not less than par value will be received by Board of Public Works of the City of Lake City, Florida, until August 24, 1914, at 8 P. M., when they shall be opened for the purchase of any or all of \$79,000 5 per cent. 30-year bonds, dated October 1, 1913, interest payable semi-annually on the 1st day of April and October of each year; issued under authority of ordinance under Chapter 5509 of Laws of Florida of 1905, for public improvements and to take up outstanding indebtedness; said bonds being in denominations of \$1000 each. Each bid must be accompanied by a certified check of \$500. Said bonds known as "Validated Redemption and Improvement Bonds of the City of Lake City," and were validated by a decree of the Circuit Court of Florida of the 6th day of January, 1914, under Chapter 6237, Laws of Florida of 1911. Further information may be had from W. H. Wilson, City Attorney.

The right is reserved to reject any and all bids.

G. A. BUTE, Chairman.

J. W. LAYNE, Secy.

## \$58,000 Pulaski Co. (Va.) School District No. 4 Bonds For Sale

Notice is hereby given that the School Board of Pulaski School District (No. 4) of the County of Pulaski, Virginia, will receive bids at the office of J. F. Wysor, Treasurer of Pulaski County, until twelve o'clock noon on Monday, August 3, 1914, for the purchase of \$58,000 of bonds of said school district; said bonds to be coupon bonds of the denomination of \$500 each, dated September 1, 1914, bearing interest at the rate of five per cent. per annum, interest payable semi-annually; \$5000 of said bonds mature in five years, \$8000 in ten years, \$10,000 in fifteen years, \$10,000 in twenty years, \$12,000 in twenty-five years, and \$13,000 in thirty years; said bonds issued for school improvement in said district.

Certified check for \$1000 must accompany each bid as an evidence of good faith. Right reserved to reject any and all bids.

For further information apply to  
J. F. WYSOR,  
Treasurer Pulaski County,  
Pulaski, Virginia.

## \$12,000 Electric Light and Water-Works Extension Bonds

Bids will be received until August 20, 1914, for the purchase of \$12,000 of Electric-light and Water-works Extension 5 per cent. Bonds. Full information furnished upon request.

C. C. REES, Mayor,  
Breaux Bridge, La.

## \$25,000 5% Bonds

Grenada, Miss.

On Tuesday, August 3, 1914, at 8 P. M., the Mayor and Aldermen of Grenada, Miss., will receive bids on \$25,000 5 per cent. twenty-year coupon bonds, semi-annual interest.

L. B. JAMES,  
City Recorder.

## \$40,000 5% Good Roads Bonds

Halls, Tenn.

Sealed bids solicited by the Commissioners of Good Roads District No. 4 of the State of Tennessee on \$40,000 good roads, coupon 5 per cent. annual, bonds maturing 30 years, but containing an option provision making them redeemable after ten years, to be opened at 2 o'clock Saturday, August 8, 1914, in Halls, Lauderdale County, Tennessee.

A certified check for \$500 must accompany bid.

J. M. PARRISH,

Chairman Board of Commissioners.

City of Pensacola (Florida)  
\$400,000 4½% Dock and Belt Railroad Improvement Bonds

Sealed bids will be received by the Board of Commissioners of the City of Pensacola, Florida, from July 15, 1914, until August 15, 1914, at 12 o'clock noon, for the purchase of all or any part of four hundred thousand dollars (\$400,000) City of Pensacola Dock and Belt Railroad Improvement Bonds, which shall be paid for upon delivery to the purchaser on the 1st day of September, 1914, at any national bank in the city of Pensacola which the purchaser shall designate in his proposal. Said bonds being of the denomination of one thousand dollars (\$1000) each, dated October 1, 1913, maturing October 1, 1943, numbered 1 to 400, both inclusive, bearing interest at the rate of 4½ per cent. per annum, payable semi-annually, and the principal and interest are payable in gold coin at the office of the United States Mortgage &amp; Trust Company, in the city and State of New York. The bonds will be engraved under the supervision of and certified as to genuineness by the United States Mortgage &amp; Trust Company of New York, and the legality of the bonds will be approved by Messrs. Dillon, Thomson and Clay, attorneys of New York, whose opinion as to the legality, or a duplicate thereof, will be delivered to the purchaser or purchasers.

Each bid must be made on a blank form of proposal furnished by the city of Pensacola, and must be accompanied by a duly certified check on one of the banks of the city of Pensacola for 2 per cent. of the par value of the bonds bid for. The bid must be in a sealed envelope marked "Bid for Dock and Belt Railroad Improvement Bonds," and addressed to the Board of Commissioners of the City of Pensacola, Florida, and no bid will be considered that is not received at the office of the Mayor at the City Hall in the city of Pensacola by or before 12 o'clock noon on August 15, 1914, at which time and place all bids will be publicly opened and read.

The right is reserved to reject any and all bids. For further particulars address the United States Mortgage & Trust Co. or the undersigned.

A. GREENHUT,  
Mayor of the City of Pensacola, Florida.  
Attest:  
C. W. EGART,  
City Clerk.

## WATERWORKS AND SEWERS

## Sanitary Sewers

## NOTICE TO CONTRACTORS.

San Antonio, Texas, July 21, 1914. Sealed bids will be received by the undersigned until September 7, 1914, at 4 P. M., for the construction of a sanitary outfall sewer 72" in diameter and approximately 15,000' in length, in accordance with plans and specifications to be seen in the office of the City Engineer.

The City of San Antonio reserves the right to reject any and all bids.

FRED FRIES,

City Clerk.

## Water-Works System

New Boston, Texas. Sealed bids will be received by the City Council of the City of New Boston, Texas, until 8 P. M. Monday, August 3, 1914, and opened and publicly read immediately thereafter, for furnishing all materials therefor and building complete a water-works system for the said city. Said system will include the drilling of a battery of shallow wells, the laying of about 3800 feet of 6-inch and 1350 feet of 4-inch C. I. water pipe. Also, 4800 feet 2-inch galvanized-iron pipe, 6 hydrants and 6 gate valves, two oil engines and triplex pump and power-house, and one 100-foot 50,000-gallon-capacity water tank, all completely installed ready for operation.

Plans and specifications can be had from the engineers upon payment of \$5 for same. The City Council reserves the right to reject any or all bids.

O. B. PIRKEY, Mayor.  
O. H. PROCTOR, City Clerk.  
NAGEL & PETERSEN, Engineers,  
Muskego, Oklahoma.

# PROPOSALS

SEWERS

WATER-WORKS

ELECTRIC LIGHT PLANTS

BRIDGES

## PAVING AND GOOD ROADS

**State Highway**

STATE OF MARYLAND,  
STATE ROADS COMMISSION,  
601 Garrett Building,  
Baltimore, Md.

## NOTICE TO CONTRACTORS.

Sealed proposals for building 10 sections of State Highway, aggregating about 42.18 miles in length, as follows:

Contract No. A-11—ALLEGANY COUNTY: One section of road from near Cumberland to Nave's Farm Road, about 1.74 miles in length. (Resurfacing.)

Contract No. BC-19—BALTIMORE CITY: One section of Cathedral and Liberty Sts. from near Monument St. to Baltimore St., about .54 miles in length. (Sheet Asphalt and Granite Block.)

Contract No. D-8—DORCHESTER COUNTY: One section of road from Cambridge to the Church Creek Road, about 5.85 miles in length. (Macadam or Concrete.)

Contract No. D-26—FREDERICK COUNTY: One section of road through Middletown, about 1.36 miles in length. (Macadam or Concrete.)

Contract No. P-13—PRINCE GEORGE'S COUNTY: One section of road from Meadows to Camp Springs, about 3.05 miles in length. (Macadam, or Concrete, or Gravel.)

Contract No. S. M. 8—ST. MARY'S COUNTY: One section of road from St. Mary's City to Ridge, about 6.74 miles in length. (Gravel Surfacing.)

Contract No. S. M. 10: One section of road from Leonardtown to Great Mills, about 10 miles in length. (Gravel Surfacing.)

Contract No. 093—SOMERSET COUNTY: One section of road from Carroll's Corner to Marion, about 5.32 miles in length. (Macadam or Concrete.)

Contract No. W-7A—WASHINGTON COUNTY: One section of road from Licking Creek to Millstone, about 4.1 miles in length. (Macadam or Concrete.)

Contract No. W-7B: One section of road from Millstone to Hancock, about 3.5 miles in length. (Macadam or Concrete.)

Will be received by the State Roads Commission at its office, 601 Garrett Building, Baltimore, Md., until 12 M. on the 4th day of August, 1914, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications will be furnished by the Commission upon application and cash payment of \$1 for each contract, as hereafter no charges will be permitted.

No bid will be received unless accompanied by a certified check for the sum of five hundred (\$500) dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 15th day of July, 1914.

O. E. WELLER,  
Chairman.

WM. L. MARCY,  
Secretary.

**Paving**

## NOTICE TO CONTRACTORS.

BIDS RECEIVED UNTIL AUGUST 10, 1914.

Williamson, W. Va., July 21, 1914.

Sealed proposals for about 50,000 square yards of Brick, Bituminous Macadam and Concrete Paving, and 1000 linear feet of Curbing, and 5000 linear feet of Sewers, will be received by the City of Williamson, W. Va., at the City Hall, until 8 P. M. August 10, 1914.

Plans and specifications can be seen and blank forms of proposals obtained at the City Hall, and at the office of the City Engineer, in the First National Bank Bldg., Williamson, W. Va., on and after July 30, 1914.

The right is reserved to reject any and all bids, or, waiving formalities, to accept any which may seem to it to be the best for the City of Williamson.

JOHN S. HALL, City Recorder,  
Williamson, W. Va.

N. H. MANNAKEE, City Engineer,  
Williamson, W. Va.

**Paving, Curbing, Etc.**

Grenada, Miss.

Sealed proposals will be received by the City of Grenada, Miss., at the City Recorder's office until August 3, 1914, for the following approximate items:

14,000 sq. yds. street paving with vitrified brick, wood block, concrete and bitulithic.  
4000 lin. ft. concrete curb.

All necessary grading, water and sewer connections.

Proposals to be made on blanks furnished by the City Recorder and to be accompanied by certified check for \$1500. Specifications and forms may be obtained from City Recorder. The Board of Mayor and Aldermen reserve the right to reject any or all bids.

L. B. JAMES,  
City Recorder.

**Paving Bids**

Mooresville, N. C., will receive sealed bids on 9000 yards bituminous paving, concrete base and curb, until 2 P. M. August 24, 1914.

Plans and specifications can be obtained by depositing five dollars (\$5) with Adal Osborne, Engineer, 414 Realty Bldg., Charlotte, N. C., or can be inspected at this office.

The right to reject any and all bids is hereby reserved.

E. C. DEATON,  
City Clerk and Treasurer.

**MISCELLANEOUS****Steel Standpipe**

Proposals will be received until August 10, 1914, on steel standpipe, sizes twenty feet diameter, sixty feet high, and twenty-three feet in diameter, and fifty feet high, roof ladder, and foundation.

R. W. BAKER, Mayor,  
Petersburg, W. Va.

**Bridge**

STATE OF MARYLAND,  
STATE ROADS COMMISSION,  
601 Garrett Building,  
Baltimore, Md.

## NOTICE TO CONTRACTORS.

Sealed proposals for building Sections 1 and 2 of the Hanover Street Bridge, over Middle Branch, Baltimore City and Baltimore County, as follows:

(a) For the construction of the substructure, Section 1, of the work, embracing the entire substructure as described in the specifications and including the pro rata cost of cofferdams, pumping, excavation, and backfilling, all temporary construction and the items of expense of whatsoever nature incident to the construction and completion of the work in the section.

(b) For the construction of the superstructure, Section 2, of the work, embracing the entire superstructure as described in the specifications and including the pro rata cost of all temporary construction, royalties, if any, and every item of expense of whatsoever nature incident to the construction of the work in the section.

(This bridge to be approximately 2300' in length, 45' above the water, and 70' in width.)

Will be received by the State Roads Commission at its offices, 601 Garrett Building, Baltimore, Maryland, until 12 M. on the 13th day of August, 1914, at which time and place they will be publicly opened and read.

Bids must be made upon the blank form contained in the book of specifications. Specifications will be furnished by the Commission upon application and cash payment of \$1 for each contract, as hereafter no charges will be permitted.

No bid will be received unless accompanied by a certified check for the sum of five hundred (\$500) dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

By order of the State Roads Commission this 23d day of July, 1914.

O. E. WELLER,  
Chairman.

WM. L. MARCY,  
Secretary.

**Creek Drainage**

Sealed bids will be received at Courthouse, Salisbury, N. C., by the Board of Drainage Commissioners for Grant's Creek Drainage District, Rowan county, North Carolina, on Monday, August the 3d, at ten o'clock A. M., for clearing the right of way and cutting a ditch along Grant's Creek about 14½ miles long, and containing about 491,866 cubic yards of material.

Ditch to be complete within sixteen months from August the 1st. Plans and specifications on file in the Clerk's office, Salisbury, N. C.

Certified check for \$500 required. The right to reject any and all bids reserved.

C. M. MILLER, Engineer and Supt.,  
Salisbury, N. C.

July 15, 1914.

**Dredge-Boat Work, Etc.**

## NOTICE TO CONTRACTORS.

Union City, Tenn., July 7, 1914.

Sealed bids will be received until noon of Tuesday, the 4th day of August, 1914, for approximately 446,700 cubic yards of ditch work with floating dredge and approximately 21,000 cubic yards with teams, and for clearing approximately 125 acres of right of way. Will entertain bids for all or any part of said work. Bids on work as a whole or for dredge-boat yardage must, as a guarantee of good faith in entering into contract, be accompanied by certified check for one-tenth (1-10) of amount so respectively bid; bids for team work yardage and clearing, as a whole, must likewise be accompanied by certified check for \$1000; bids on team work yardage and clearing separately must be accompanied respectively by certified check for \$500. Right to reject any and all bids reserved by Board of Directors. Specifications can be had by applying to W. C. Kelly, engineer, Union City, Tenn. Work to be completed in one year.

HARRIS FORK DRAINAGE DIST. No. 3,

J. L. PICKLE,  
Secretary of the Board of Directors.

**Metal Culverts**

Wanted—Bids for immediate shipment on full circle corrugated galvanized metal culverts. Quote prices f. o. b. factory of manufacturer, and delivered prices at Savannah, Ga., stating guaranteed analysis of metal and weight per lineal foot of each diameter, which must be guaranteed. Bidder to furnish drawing of connecting bands. All bids to be submitted to J. C. Flemming, Agent, P. O. Box 154, Columbia, S. C., who reserves the right to reject any or all bids.

100 pieces 16 gauge, 10-inch diameter, each piece 10 feet long, total 1000 feet.

100 pieces 16 gauge, 12-inch diameter, each piece 10 feet long, total 1000 feet.

100 pieces 16 gauge, 15-inch diameter, each piece 10 feet long, total 1000 feet.

100 pieces 16 gauge, 18-inch diameter, each piece 10 feet long, total 1000 feet.

100 pieces 16 gauge, 20-inch diameter, each piece 10 feet long, total 1000 feet.

60 pieces 15 gauge, 24-inch diameter, each piece 10 feet long, total 600 feet.

10 pieces 15 gauge, 30-inch diameter, each piece 10 feet long, total 100 feet.

10 pieces 14 gauge, 36-inch diameter, each piece 10 feet long, total 100 feet.

70 pieces 16 gauge, 16 connecting bands.

70 pieces 16 gauge, 12 connecting bands.

70 pieces 16 gauge, 15 connecting bands.

70 pieces 16 gauge, 18 connecting bands.

40 pieces 15 gauge, 24 connecting bands.

7 pieces 15 gauge, 30 connecting bands.

7 pieces 14 gauge, 36 connecting bands.

J. C. FLEMING, Agent,  
P. O. Box 154, Columbia, S. C.

**Gasoline Truck**

Wanted—To buy for road purposes, a gasoline truck, five to six ton carrying capacity, with body sufficiently large to carry twenty-five men, and also to be used for the purpose of scarifying the roads, and at the same time to pull a road machine with an eighteen-inch blade twelve feet long. Apply to A. Huber, Chairman County Commissioners, Moultrie, Ga.

**Sewage Disposal, Durham, N. C.**

Sealed proposals will be received by the Mayor and Board of Aldermen of the City of Durham, N. C., until 4 P. M. August 10, 1914, for building a sewage-disposal plant.

The work will consist of an Imhoff tank, about two acres of sand filters and about one mile of 24-inch terra-cotta pipe line.

Plans and specifications will be on file at the City Engineer's office in Durham, and at the office of the Consulting Engineer in Charlotte, N. C.

Certified check for \$1000 must accompany each bid as evidence of good faith.

The right is reserved to reject any or all bids.

W. J. BROGDEN, Mayor,  
GEO. W. WOODWARD, Clerk,  
Engineer:  
GILBERT C. WHITE,  
Charlotte, N. C.

We saw your advertisement  
in the

**Manufacturers  
Record**

Start your letter that way when writing the advertisers in this paper. It will be appreciated alike by the advertiser and the paper.

**For Sale At Bargain**

1 Boston Blower Co. Hot Blast Blower, complete, with pipe, etc.; size of fan 72" x 36".

2 Brownell Co., Dayton, Ohio, 60 H. P. Boilers, complete, with 60-ft. iron stack; good condition.

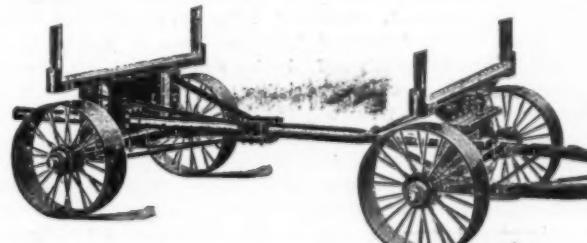
1 54x60 Power Veneer Machine, complete.

1 28" Merritt Quartz Chopper, complete.

1 90 H. P. Steele & Tapley Engine, in good condition.

For particulars communicate with

Room 901, Bank of Commerce Bldg.,  
Phone 6353 NORFOLK, VA.



**STEEL WHEELS** for any purpose,  
any size to fit any axle, with or without roller bearing. **STEEL AXLES**, straight or bent; or **WOOD AXLES**, **LOG WAGONS**, **FARM TRUCKS**, **TRAILER WAGONS**.

**Lumber Buggies and Carts**

— ALSO —

**DESIGNERS** of special mountings of all kinds of concrete mixers, gasoline engines, well drills, etc., built to customers' requirements.

Our heavy hauling equipment considered the standard the country over.



Write us about your needs. Let us help you solve your hauling problems.

**ELECTRIC WHEEL CO., MFRS.**

5 Ohio Street, QUINCY, ILL., U. S. A.

**THERMIT WELDING OF RAILS**  
By the United Railways Company  
of Baltimore.

Thermit welding as a new and interesting process in metallurgy was referred to in a recent article on the new street work in Baltimore. Further information as to



SECTION THROUGH MODIFIED CLARK JOINT.

It will be noted that the lower part of the rail and fishplates are entirely amalgamated with the Thermit steel.

the manner in which thermit welding is done and a statement as to its cost is furnished in a letter from the Goldschmidt Thermit Co. of New York. The letter also gives credit to a Baltimore engineer for perfecting the original process. The illustrations herewith are of work done in Baltimore. Describing this work and the method of it, the Goldschmidt Company writes:

"The United Railways Co. of Baltimore is a user of a rail joint known technically as the modified Clark joint. The joint was perfected by Mr. Charles A. Clark, chief engineer of the Cleveland Railroad Co., and it has been very extensively and successfully used in Cleveland and other Eastern cities, where many thousand joints have been installed.

"In the modification of this joint, as developed by Mr. J. M. Hood, Jr., consulting engineer for the United Railways & Electric Co. of Baltimore, and adopted by that road, the object was to obtain a more perfect Thermit Weld around the base of the

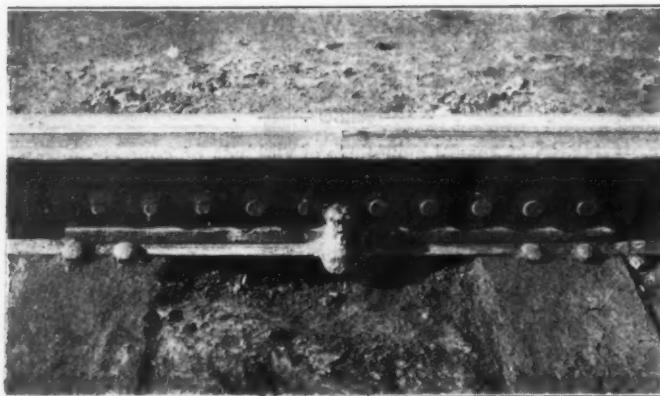
minimum amount of space between the web of the rail and vertical side of the fishplates. The channel bars and rails are of the same high-carbon steel, and both are punched in the mill with 10 1-16-inch holes, spaced 3 inches centers and beginning 2 inches from the end of the rail. These fishplates are riveted to the rail ends, after which the base of the rails and the lower part of the fishplates are welded into a single homogenous mass by means of the Thermit process.

"The joint has been applied thus far exclusively to 7-inch girder groove rail, weighing 103 pounds per yard, the sections used being either of Pennsylvania Steel Co.'s section No. 287 or Lorain Steel Co.'s section No. 103-426. These 7-inch girder sections are undercut by the manufacturers one-sixteenth inch, so as to provide a space of one-eighth inch at the base when the rail ends are abutted. This procedure more effectually enables the Thermit steel to make a monolithic mass of the rail and fishplates at the joint, and also makes possible the butting of the heads.

"The plates are bolted to the rail, and before tightening up on the bolts a steel wedge is driven between the bases of the rail at the joint ahead. This is done to insure getting the heads of the rail tight together at the joint to be reamed. Four seven-eighths-inch bolts are used to draw up the plates, and these are drawn up fairly tight, and at the same time a sledgehammer is used to assist in making the plates fish. The holes are now reamed with a Duntley electric track drill to 1 1-32 inches, after which a 1-inch bolt or cold rivet is inserted in the reamed hole. After all the holes are reamed the plates are taken off and any chips, etc., removed that may have fallen between the plates and the rail, after which the plates are again put back and bolted up tight. The riveting gang follows the reamers.

"The rivets used are 1 inch in diameter, 4 3/4 inches long, and have cone heads. They are driven in position by a hand-riveting outfit, but now a power riveter similar to that used by Mr. Clark in Cleveland is being considered. The riveting crew consists of four men, and it requires about 30 minutes to rivet one joint. After the plates are riveted the Thermit Weld is made on the base. The Thermit crew consists of four men, and it requires about 15 minutes to make a weld.

"'Thermit' consists of a mixture of



COMPLETED MODIFIED CLARK JOINT, SHOWING THERMIT WELD OF BASE.

end. To do this, a closed mold was substituted for the open mold as originally used by Mr. Clark, the joint was preheated and other refinements added.

"The joint proper consists of fishplates of a special design, 1 inch in thickness and 32 inches long, and so formed as to fit snugly the contour of the head and base of the rail and at the same time provide a

finely divided aluminum and iron oxide; this is ignited in a crucible by means of special ignition powder, and a chemical reaction takes place. The aluminum combines with the oxygen of the iron oxide to form aluminum oxide, and the iron is set free, coming down as a highly superheated liquid steel at approximately 5000 degrees F. It is this steel which is poured around

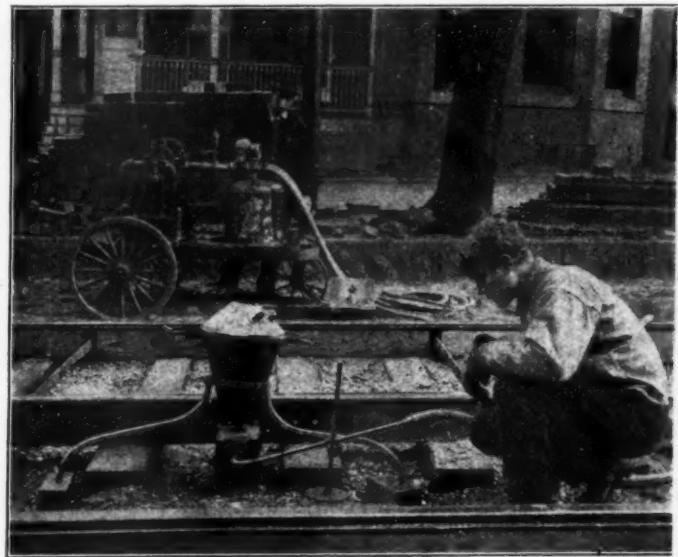
the rail ends, and which, being twice as hot as ordinary molten steel, melts the rail ends, as well as the lower part of the fishplates, into one solid mass.

"Special mold boxes are employed for the Thermit Weld—one for the inside and one for the outside—suitably fastened together by means of a clamp after they have been put into position. These molds are rammed in advance on a foundry squeezing machine in accordance with regular foundry practice.

"After they have been clamped to the rails, the flame of a compressed air gasoline preheater, especially designed by the Goldschmidt Thermit Co., is directed into the mold and the parts to be welded are brought to a bright red heat with the mold in place. In order not to stop the preheating when once commenced or to interfere with traffic, the trolley pole attached to the preheater motor is so constructed as to clear passing cars while still in contact with the trolley wire. In the meantime, a crucible containing the welding charge of Thermit is suspended over the pouring gate of the mold, and as soon as the parts to be welded are red hot the preheater is withdrawn, the preheating opening in the mold plugged up, the Thermit

"A number of street railways have installed this joint besides Baltimore and Cleveland."

A periodical published by the Goldschmidt Thermit Co., with the title, "Reactions," contains illustrations and descriptions of the great variety of applications that are made of the Thermit welding process. It appears to be applicable to all repair work, without regard to the magnitude of the weld or the strain to which the part may be subjected. One demonstration is of a weld on the crankshaft of a 150-ton refrigerating machine, and the statement is made that a Thermit weld on a broken crankshaft makes a better shaft than a new one. A cast-iron pillow block on an engine in the plant of Abendroth & Root at Newburgh, N. Y., was repaired in short order with a Thermit weld at the plant. A tooth was placed in a large gear wheel at the plant of the American Tube & Stamping Co., Bridgeport, Conn., without removing the gear from the shaft. A mining company in Arizona uses the process for small castings and for the repair of broken pulley hubs, boring mills, cast-steel ladles, etc. A large plunger for an electric hoist in the Tennessee Coal, Iron & Railway plant at



MODIFIED CLARK JOINT. PREHEATING RAIL ENDS WITH MOLD IN PLACE.

ignited and the steel poured into the mold. The finished weld, after being properly cleaned and trimmed, weighs about eight pounds. The object of the Thermit Weld is twofold:

"First, that of insuring a monolithic mass, as above mentioned, and

"Second, that of providing for a proper electrical return which will be permanent as well as highly efficient as regards electrical conductivity.

"The cost of installing one of these joints, where the work is done in any quantity, itemizes about as follows:

Plates for 7-inch girder rails, P. S. Co. 287 or L. S. Co. 426, 100 lbs. pair.....	\$1.71
Thermit, 9 lbs., at 25 cts. per lb.....	2.25
Rivets, 10 to a joint, 4 3/4 x 1 inches, at 3 cts. each.....	30
Fireclay, at 82 cts. per bag (does 20 joints).....	04
Gasoline, at 15 1/2 cts. per gal, 5/8 gal. per joint.....	10
Thimble, at 10 cts. (does 2 joints) ..	05
Plugging material, 10 cts. per joint ..	10
Molding sand, \$2.90 per ton.....	01
Coal (for heating rivets).....	01
Reaming and riveting.....	70
Making weld.....	56
Depreciation of tools, etc., 5%.....	30
Total.....	\$6.13

Ensley, Ala., was Thermit-welded. Other instances are a bridge casting for a large press, welding an anchor davit for the Olympia, Dewey's old flagship; welding on a new rudder stock for the steamship Lampassas, of the Mallory Line; Thermit welding of passenger car couplers, engine driving wheels, engine crossheads, engine frames, pistons, etc. Evidently the new process is adapted to a wide field of usefulness.

**National Commissary Managers.**

The program of the fifth annual convention of the National Commissary Managers' Association, to be held at Louisville, Ky., August 18-20, announced by Secretary Tracy D. Lucecock, 801 Manhattan Building, Chicago, includes four business sessions. The round-table symposiums that have been so successful at previous conventions will be continued at this meeting. Among the numbers on the program are: "Making the Commissary a Permanent Institution in the Community," "Steps in the Growth of a Commissary Manager," "How Can the Commissary Manager Increase His Efficiency?" each subject being discussed by five store managers, followed by general discussion.

## INDUSTRIAL NEWS OF INTEREST

**Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.**

**Contracts for "Nonpareil" and "Everlastic" Tile.**

Through its Southern representative, H. S. Gibbes, 916 Healey Bldg., Atlanta, Ga., the David E. Kennedy, Inc., 53-55 Fifth Avenue, New York, manufacturer of "Nonpareil" cork tiling and "Everlastic" composition cork tile, has secured contracts in the following Southern cities: Hartsville, S. C., office building for the Hartsville Oil Mill; Charleston, S. C., C. D. Frank & Co., Inc.; Birmingham, Ala., R. D. Burnett's Billiard Room; Atlanta, Ga., First Church of Christ, Scientist; Birmingham, Ala., Jefferson County Savings Bank, Tutwiler Hotel, and Ridgeley Apartments; Atlanta, Ga., Fulton County Courthouse, and Tampa, Fla., West Tampa Library.

**An Effective Ventilating System.**

Effective and novel methods of ventilation have been provided for the auditorium of the Phillips Theater at Fort Worth, Tex., by the Texas Heating & Ventilation Co. of Fort Worth. Under the floor of the building are placed cement conduits with smoothly finished interior through which air is forced and from which it escapes by way of 25 vents in the floor into the auditorium. The openings of the vents are about 2½ inches in diameter and are protected by mushroom caps permitting the diffusion of the air as it escapes, and at the same time the heated air of the auditorium escapes through seven cowl ventilators in the roof with the heads resting on ball-bearings, so that they will readily shift with the wind. Another novel feature in the construction of the building is the absence of stairways. Inclines are used to reach the second floor, and all exits are on the sidewalk level.

**Feldspar Products Plant and Mine for Sale.**

The factory and machinery equipment, trade-marks, assets and good-will, raw and finished material, together with a feldspar mine located in Howard county, Maryland, of the New Spar Products Co., Columbia Ave., Baltimore, will be sold on the premises August 10, 1914, by the receivers. The New Spar Products Co. has for several years manufactured washing powders known as "Chingspar" and "Sparbon," composed of feldspar products, according to prescribed formulas and process, likewise the property of the receivers. It is stated that Albert J. Redpar and Henry H. Dinneen, the receivers, have conducted the going concern for the past 30 days at a profit, and will continue to operate the plant until possession is delivered to the purchaser. For further information address the auctioneers, Patterson & Gahan, 7 E. Lexington St., Baltimore.

**Oil Engines for United States Government.**

The United States Government has recently placed orders for 13 Mietz & Weiss oil engines manufactured by August Mietz, 128-38 Mott St., New York, including the following sizes: Seven 45 horse-power compressor units, two 18 horse-power units, one 7 horse-power unit, two 12 horse-power units and one 150 horse-power M. & W. direct reversible marine engine. The company states the Radio Department of the Government has been furnished about 25 vertical type oil engines driving generators, and a number of engines have been furnished other departments. A number of Mietz & Weiss engines are in use by foreign governments and the Pennsylvania Railroad Co., the Lehigh Valley Coal Co., the New York Central Railroad Co., the Pittsburgh-Shawmut & Northern Railroad, Armour & Co. and municipalities throughout the country use Mietz & Weiss engines. These engines are built in sizes from 2 to 400 horse-power for operation on kerosene, fuel oil and crude oil.

**TRADE LITERATURE.****"Wire-Cut-Lug Brick" Booklet.**

An interesting booklet which illustrates and describes the peculiar merits and advantages of Dunn Wire-Cut-Lug brick is issued by the Dunn Wire-Cut-Lug Brick Co. of Conneaut, O. This style of brick is used in all parts of the country, and a number of leading paving-brick companies make the Dunn block under license.

**Summer Tours By Sea.**

Routes and fares for summer tours by sea and other information for the tourist are contained in an illustrated booklet issued by the Merchants & Miners' Transportation Co. of Baltimore. The routes embrace, in addition to those owned and operated by the Merchants & Miners' Company, many other steamer and railway lines, and tours may be arranged to all principal summer resorts on application to the passenger traffic manager at Baltimore, Md.

**The Value of Property Appraisal in Event of Fire.**

A leaflet calling attention to the important question of insurance appraisal before losses occur has been issued by the H. G. Ferree Company, 11 S. 2d St., Memphis, Tenn., appraisers-engineers of public utilities, industrial plants and commercial buildings. In this leaflet the company explains the value of appraisal of property so that in the event of fire the facts will be in hand. Other facts on insurance contracts and their relation to the insured are also given.

**Laclede-Christy Refractory Materials.**

A circular, dealing with highest efficiency in connection with the use of refractory materials, is issued by the Laclede-Christy Clay Products Co. of St. Louis, Mo. The circular contains information on the many different brands of fire-brick produced, and states that the company manufactures refractory materials for practically every purpose. Visitors are invited to call and enjoy personally conducted tour through the company's plant, which is said to be one of the largest clay products industries in the world.

**Hill's Lighting Fixtures.**

Artistically designed, hand-wrought lighting fixtures for home, factory or office are described and attractively illustrated in supplement No. 2 of catalogue No. 8, issued by Walter E. Hill & Co., 203 N. Liberty St., Baltimore. Electric fixtures containing from one to six lights, semi-indirect lighting bowls and lanterns, bracket electric lanterns and electric wall lanterns, which are furnished in burnt brass, Verde, black, antique copper, Swedish iron and antique brass, are shown, giving stock number, dimensions and price complete of each article. Catalogues and supplements of Hill's gas and electric fixtures will be sent to interested persons upon request to the company.

**Possibilities of Red Gum Wood.**

A folder entitled "The Wood of Today and Tomorrow," treating of the merits of our native Red Gum and its adaptability as a substitute for mahogany, walnut, etc., has been issued by the Hickson Lumber Co. of Lynchburg, Va. The folder contains a brief history of Red Gum, and states that it is used for veneers, furniture, musical instruments, interior finish, mouldings, fixtures, baskets, crates, toys, etc., and because it is capable of taking and holding a fine finish and is hard and durable, it is sold as Circassian walnut, cherry, mahogany, oak and other cabinet and furniture hardwoods. A list of prominent buildings finished in Red Gum is also given in the folder.

**"Oswego" Internally Fired Boilers.**

Latest improved features now embodied in "Oswego" self-contained internally fired water-tube boilers are described and illustrated in the fifth edition of bulletin No. 2, issued by the A. D. Granger Co., 90 West St., New York. Tables giving dimensions,

ratings and other data, for both high pressure and low pressure boilers, are included, together with sectional drawings of boilers and illustrations of buildings in which "Oswego" boilers have been installed. The company is direct mill agents for power plant machinery and specializes in boilers, engines, stacks, pump-condensers and heaters. The Granger company has recently perfected an arrangement with the Hawley Down Draft Furnace Co. of Easton, Pa., to build its own down-draft water grates. The bulletin will be furnished to interested persons upon request to the company.

**Automatic Chain Grate Stokers.**

The field of usefulness for the automatic stoker has greatly increased with the modern tendency toward increased overloads, high efficiency and smokeless combustion, and the reasons for this are given in the 65-page book on "Chain Grate Stokers," issued by the Babcock & Wilcox Co., 65 Liberty St., New York. The book contains illustrations, drawings, descriptions and methods of operation of chain grate stokers and tables of tests of various boilers equipped with Babcock & Wilcox chain grate stokers. Illustrations are shown of Babcock & Wilcox chain grate stokers in actual operation at Newport Rolling Mills, Newport, Ky.; Louisville Gas & Electric Co., Louisville, Ky.; Erie County Electric Co., Erie, Pa.; Louisville Railway Co., Louisville, Ky.; Atlas Portland Cement Co., Northampton, Pa., and many other plants.

**Frick Company's Machinery Catalogues.**

Refrigerating and ice-making machinery, ammonia fittings and supplies, Frick engines, saw mills and threshing machinery are illustrated and described in the following publications issued by the Frick Company of Waynesboro, Pa.: Catalogue "O" on refrigerating and ice-making machinery covers in full, by illustrations and description, ice and refrigeration. The "Ammonia Fittings and Supplies" catalogue includes illustrations and information on valves, flanges, direct expansion pipes, ammonia condensers and accumulators, exhaust steam separators, steam condensers, storage tank coils, air compressors, etc. A "Directory and List of Users" of Frick machinery is published by the company, and a special catalogue on "Frick Engines, Saw Mill and Threshing Machinery," describing "Eclipse" traction and portable engines, threshers, saw mills, stationary engines and steam boilers is issued also.

**FARMING AS A BUSINESS.****Policy in a Plan in Which Former Governor Mann is interested.**

Former Governor William Hodges Mann of Virginia writes to the MANUFACTURERS RECORD:

"The Alfalfa Land Co., recently chartered by the State Corporation Commission of Virginia, has an authorized capital of \$500,000, of which \$400,000 will be preferred 7 per cent. stock and \$100,000 will be common stock. It will own about 5000 acres of land on James River, a large portion of it underlaid with marl, the value of which has been proved by actual use. Its purpose is to develop and improve this land upon a strictly business economic system and by the use of scientific methods of agriculture.

"Mr. T. O. Sandy, one of the best judges of land I know, has, with me, examined this land, composed now of some five farms, all well adapted to the growth of alfalfa, hogs, cattle, corn, oats, wheat, peanuts and bright tobacco. One of the farms seems to be natural alfalfa land, as we found it growing luxuriantly, and both of us are certain all of the land can easily be made to produce abundant and profitable crops. With marl in easy reach of all the fields, most of them having an elevation of from 30 to 70 feet, our purpose is to put at least 3000 acres in alfalfa and make it do its best."

"Of course, upon all James River farms, where creeks come into the river, there are considerable areas of marsh land, covered the year round with grass good for cattle and hogs and offering special inducements to the latter. It is proposed to connect

wood and cultivated upland with these marshes and have at least five or six crop rotations upon which the hogs can be turned at the proper time and so kept fat and growing the entire year with little, if any, grain. The meat raised in this State is of fine quality, as all those who eat Virginia hams can testify, and because of its quality a large dealer offers Chicago and St. Louis prices to our meat producers, with 30 cents per hundred pounds additional, as that is the freight from Western points to Richmond. Gradually dairies will be started on all of these farms, which we think can be made to pay the expense of their cultivation.

"The farms will be carefully platted, showing timber, open land, marsh lands, etc., and under careful and intelligent supervision by a man who understands the land and the crops to which it is best adapted the farms will be divided into fields, which will be numbered and crop rotation established and a careful account kept with each field. Each farm will be under the management of a practical, successful farmer familiar with up-to-date methods, and these will be under the careful supervision of one of the best, if not the best, farmer in the State. A careful, intelligent system will be established and maintained."

"In short, the company is going to undertake the business of farming and conduct it upon strictly business principles. It will see to it that every dollar will be put where it will do 100 cents' worth of good; that the labor employed will be required to give the company value for the wages paid, as in a factory or other business; that the rotation of crops shall be so arranged as to improve and develop the land which we expect to grow more valuable every year. These farms are located on the banks of the river, with lines of railroad not very far off, which settles the transportation question in favor of our enterprise."

"We are going to succeed, and by so doing be of inestimable service to the State and to the country at large, because our success will demonstrate that capital can be as profitably, if not more profitably, employed in agriculture than in manufacture or other pursuits. The value of land as an income producer will be proved, and conditions will be created which will keep the country boys on the farm and induce city boys to seek agricultural pursuits as healthy, pleasant and profitable. These results will be followed by increased food production and the cost of living will be brought within reasonable limits."

**Sand and Gravel Production.**

The total production of sand and gravel in the United States in 1913 reported directly to the United States Geological Survey was 79,555,849 short tons, valued at \$24,217,508, a net increase in quantity of 11,201,286 short tons and in value of \$1,104,300 over the production of 1912. Sand for building purposes constituted nearly one-third of the total production. In 1913 a production of 25,397,383 tons of building sand was recorded, with a value of \$8,007,949. This is an increase in quantity of 1,621,370 tons and in value of \$39,822 over the production of 1912. The average value per ton, which increased from 31 cents in 1911 to 33½ cents in 1912, fell to 31½ cents in 1913. Glass sand was marketed in greater quantity than ever, the total quantity produced in 1913 being 1,791,800 tons, valued at \$1,895,901. This is an increase in quantity of 326,414 tons and in value of \$405,520 over the production of 1912. The average value per ton rose from 97 cents in 1912 to \$1.05 in 1913.

## Special Advertisements of General Interest.

### VIRGINIA POLYTECHNIC INSTITUTE AND AGRICULTURAL AND MECHANICAL COLLEGE BLACKSBURG, VIRGINIA

Thirteen degree courses in Agriculture, Engineering and Applied Science. Two-year course in Agriculture and Farmers Winter Courses.

Apply to Registrar for Catalogue. J. D. EGGLESTON, President.

#### WANTED

We want a simple patented article of merit to manufacture and sell to railroads, power stations and manufacturing plants. Address MERIT.

Care Manufacturers Record, Bal o., Md.

#### WISH TO CORRESPOND WITH

Party who can take Output of Box or Veneer Factory of Medium Capacity  
GEO. VINSON SHINGLE & MFG. CO.  
BERWICK, LA.

#### Natural Gas Four Cents

for Industries at  
HENRIETTA, TEXAS  
Domestic Gas 20 cents. Three Railroads, Water, Low Taxes, Healthful. Write  
HENRIETTA BOOSTER CLUB

#### Hickory Handles

We make all kinds of High Grade Hickory Handles, from the best timber to be found anywhere. Let us quote you prices.

NEWPORT HANDLE COMPANY  
NEWPORT, TENN.

#### Second-Hand Tools for Sale

Now in use, of modern type, first-class order and condition, with full and complete equipment, consisting of Lathes, Planers, Drills, Horizontal and Vertical Boring Mills and Milling Machines.

NEW HAVEN MFG. CO., New Haven, Conn.

#### CONSOLIDATED IRON & METAL CO.

Wholesale and Retail Dealers in  
Scrap Iron, Metals, Rubber, Etc.  
NEW AND RELAYING RAILS  
SECOND-HAND MACHINERY AND PIPE  
CHATTANOOGA, TENN.

#### USED MOTOR CARS: AND TRUCKS

ASK FOR LATEST LIST TODAY

MAR-DEL MOBILE CO.  
BALTIMORE, MD.

REFERENCES-BRADSTREET OR DUN.

#### Southern Lands

We are wholesalers of large tracts of lands suitable for colonization tracts, located in Georgia and Florida, also large Pine and Cypress timber lands. These are direct from owners that want to sell. Write us.

ALBERT FENDIG & CO.  
Real Estate BRUNSWICK, GA.

#### LABORERS FREE

We supply direct on receipt of trial order, male help, all nationalities, in any number, for skilled or common labor work; men to board themselves or with employers. Bridge, Concrete Form Carpenters and Helpers, Machinists, Engineers, Firemen, Coal Passers, etc. We do not misrepresent, but always describe to our applicants the nature of work, working conditions and wages exactly as stated by employers giving us their orders—hence no dissatisfaction between any parties at interest.

We get the best class of experienced Woodsmen, Trackmen, Quarrymen, Steam Shovel Skinners, Farm Hands, Coal Miners, Factory Help, Shops, Yards, Railroad and Contract Laborers.

We do not charge employers for men or services, they are both FREE.

DIAMOND LABOR AGENCY  
35 SOUTH CANAL ST. CHICAGO, ILL.  
Office Phone Franklin 3529.  
Residence Phone Garfield 5048.

## FOR SALE AT BARGAIN—COTTON SEED OIL MILL AND REFINERY EQUIPMENT

#### Equipment for 100-ton Cotton Oil Mill.

#### Equipment for 200-barrel Cotton Oil Refinery

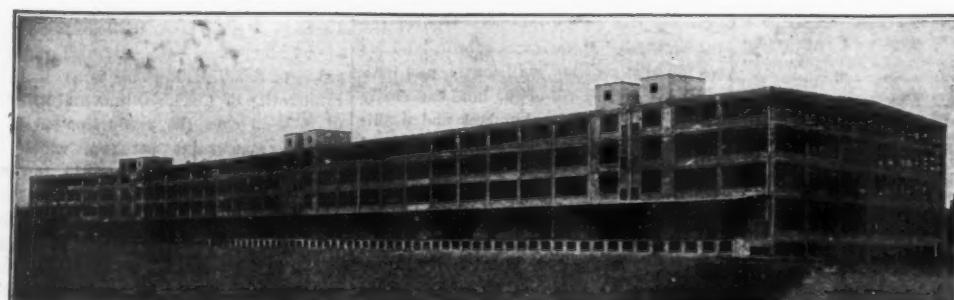
All machinery and equipment in excellent condition and will be sold at attractive figures as complete 100-ton Cotton Oil Mill outfit and complete equipment for Cotton Oil Refinery capable of refining 200 barrels of cotton oil per day. Inspection at mill is invited. Full information and prices will be furnished by

VIRGINIA FIBRE CORPORATION,

Equitable Building,

WILMINGTON, DELAWARE

## UNION TERMINAL COMPANY



LOCATED IN THE HEART OF JACKSONVILLE'S SHIPPING SECTION

Offers Wholesale Trade and Light Manufacturing Plants Unexcelled Storage and Shipping Facilities.

Rents cheaper than any other building of like character in the United States. Insurance rate on contents of building  $\frac{1}{4}$  of 1 per cent.

Five hundred thousand feet of floor space. Fire, Rat, Vermin and Burglar Proof.

Union Terminal Company  
Jacksonville, Fla.

## Special Advertisements of General Interest.

### Receivers' Sale of the New Spar Products Company

PHILIP BARTLEY WATTS, 22 St. Paul Street; HARRY K. BROOKS, 19 E. Saratoga Street, Baltimore, Md., SOLICITORS. RECEIVERS' SALE OF THE PROPERTY, ASSETS, GOOD WILL AND BUSINESS OF THE NEW SPAR PRODUCTS COMPANY, INCLUDING THE FACTORY, THE MACHINERY, EQUIPMENT, RAW AND FINISHED MATERIAL THEREIN CONTAINED, TOGETHER WITH A FELDSPAR MINE LOCATED IN HOWARD COUNTY, MARYLAND.

UNDER AND BY VIRTUE OF AN ORDER OF THE CIRCUIT COURT OF BALTIMORE CITY, THE UNDERSIGNED RECEIVERS OF THE NEW SPAR PRODUCTS COMPANY, A DELAWARE CORPORATION, WILL SELL AT PUBLIC AUCTION ON THE PREMISES NOW OCCUPIED AS ITS PLANT AT COLUMBIA AVENUE AND THE BALTIMORE AND OHIO RAILROAD, IN THE CITY OF BALTIMORE, MD., ON MONDAY, THE 10TH DAY OF AUGUST, 1914,

AT 12 O'CLOCK NOON.

ALL OF PROPERTY, BUSINESS, TRADE-MARKS, ASSETS AND GOOD WILL OF THE NEW SPAR PRODUCTS COMPANY, INCLUDING RAW AND FINISHED MATERIAL ON HAND, FACTORY, MACHINERY AND APPLIANCES, AS WELL AS ACCOUNTS RECEIVABLE BY RECEIVERS AT DATE OF SALE. (The factory site is not owned by the receivers, but leased at an annual rental of \$500.)

TOGETHER WITH A FELDSPAR MINE OF ONE AND SEVEN-TENTHS ACRES OF LAND SITUATED IN THE SECOND DISTRICT OF HOWARD COUNTY, MARYLAND, AT JONESTOWN, SOME 3 MILES FROM ELLICOTT CITY—TOGETHER WITH MINING EQUIPMENT AND RAW MATERIAL ON THE GROUND READY FOR SHIPMENT.

The New Spar Products Company has for several years been engaged in the manufacture and sale of two widely known washing powders known to the trade throughout the country as "Chingspar" and "Sparbon," articles composed in great part of feldspar mixed according to prescribed formulas and process, likewise the property of the receivers; the product of the company has been extensively advertised throughout the country, "Chingspar" and "Sparbon" in 5-cent cans, finding a ready market. The failure of the company was due to lack of sufficient working capital, coupled with the inability of its officers to realize upon its accounts receivable.

The Receivers will sell all of the aforesaid business as a unit, they having conducted the business as a going concern for the past 30 days, and will continue so to do until possession is delivered to the purchaser or purchasers. The business is now being operated at a profit despite adverse circumstances.

Sale POSITIVE—Terms: Cash upon final ratification of sale by the court. A deposit in cash of 10 per cent. of the successful bid will be required of the purchaser or purchasers at the time of sale.

HENRY H. DINNEEN,  
ALBERT J. REDPAR,  
Receivers.

PATTISON & GAHAN,  
Auctioneers, Baltimore, Md.

### THE HAMMOND HOTELS THE HOTEL ESSEX

Opposite South Terminal Station  
BOSTON, MASS.

European Plan.  
Rates Moderate.  
Absolutely Fireproof.

DAVID REED, Manager

Free Transfer Baggage from and to Station.  
Terminal of Trains from South and West.

## LINK-BELT

### Continuous Bucket Elevators

And Efficient Types of Conveyors Will  
Materially Reduce Your Costs for Handling

### Stone, Gravel, Sand and Similar Materials

The illustration shows a continuous bucket elevator, handling 300 tons per hour. It consists of 30-inch buckets attached to 2 strands of 24-inch pitch chain, and discharges to a rotary screen. Note the absence of tracks. The chains are guided by large flanged rollers. This is a heavy slow speed elevator, designed for long life.

The increasing use of stone, sand and gravel for road and concrete work has created a demand for efficient machinery to handle these abrasive and gritty materials, and in our Book No. 189 we illustrate some typical installations of Link-Belt machinery, and some of the elements used in their construction.

The same careful planning, and attention to details, which have always characterized our work, will be found in Link-Belt stone and sand handling machinery.

Our engineering advice, based on long experience in designing and building this type of equipment, is at your service.

Booklets illustrating and describing our various products will be mailed to interested parties upon request.

## LINK-BELT COMPANY

PHILADELPHIA

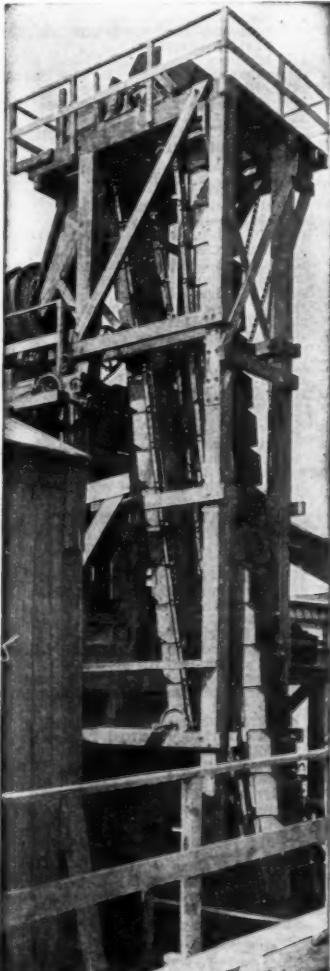
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Knoxville.....D. T. Blahey  
Birmingham.....General Machinery Co.

Detroit.....911 Dime Bank Bldg.

Seattle.....512½ First Avenue S.  
Denver.....Lindrooth, Shubart & Co.  
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European Plan. 225 Modern Rooms.  
The Only Fireproof Hotel in Macon.

Windows screened throughout.  
The Restaurant a Special Feature.  
RATES \$1.00 AND UPWARDS.  
With private Bath \$2.00 and upwards.

HOTEL DEMPSEY COMPANY  
J. M. HEMPSTED, Mgr.

## Bargains in Machinery and Supplies.

### D. C. UNITS FOR SALE

One 40 K. W. and one 60 K. W. 250-volt D. C. direct-connected engine generator sets, complete with all accessories and guaranteed in excellent condition at bargain prices. Large stock motors and small generators. We buy and sell only modern high-grade electrical apparatus, which we thoroughly overhaul and guarantee fully. V. M. NUSSBAUM & CO., Fort Wayne, Ind.

## WAYNE Rebuilt Machines

Furnished under plans carrying full protection to purchaser.

BAND-SAW MILLS—6' Fay-Egan, 7' Wayne, 8' Sinker-Davis. CIRCULAR MILLS—Gaar-Scott, Knight, Russell, Sinker-Davis. PLANERS—29 Single Surfacers, 10 Double Surfacers, 7 Single Planers and Matchers, 8 Double Planers and Matchers. MOULDERS—40 machines from 4" up to 12" and of every type. RESAWS—48", 54" and 60" Band; 24", 22", 36" and 42" Circular. BOX MACHINERY—Printers, Lock Corner Machines, Nallers, etc. COOPERAGE—Hoop, Stave and Heading Machinery for every need.

Seven hundred machines in stock.

Our "Wayne List" covering complete stock, mailed to anyone interested.

We save you money.

We give you a square deal.

**WAYNE MACHINERY CO.**  
FORT WAYNE, IND.

Successors to Hanna-Brackenridge Co.

### USED

## Woodworking Machinery

We have a large stock of new and used woodworking machinery, comprising lathes, jointers, moulders, planers, sanders, saws, etc., including also the following miscellaneous machinery.

1 double-end tenoner, "H. B. Smith." 1 Model 225 tenoner, "H. B. Smith." 1 double-end tenoner, "Clements." 1 No. 1 tenoner, "Colladay." 1 No. 1 tenoner, "American." 1 bench carver, "Valley City Mach. Wks." 1 No. 1 knife balancer, "Defiance." 2 pulley stile mortisers, "Sidney Norris Co." 1 panel raiser, "Colladay." 1 panel raiser, "Walker." 1 No. 2 relisher and mortiser, "American." 1 lock mortiser or router, "Corbin." 1 lock router. 1 router, "Smith." 1 24" blind rabettter. 1 blind rabetting and joining machine, "L. Power & Co."

1 16"x60" veneer press, "Palmer." 2 1/2"x3" wood frame veneer clamps. 2 spindle Yankee whittlers, "Porter." We also have a large stock of metal-working and contractors' machinery, electric and steam power equipment.

**L. F. SEYFERT'S SONS, Inc.**

437 N. Third St. Philadelphia

## Bargains in Second-Hand Machinery

### MUST BE MOVED AT ONCE

#### BOILERS

1 75 H. P. Pennsylvania Horizontal Tubular, 50 tubes. 1 80 H. P. Horizontal Tubular. 1 15 H. P. Lidgerwood Uprights. 1 20 H. P. Surrey Parker. 1 6 H. P. Erie City Upright.

**MISCELLANEOUS SAW MILL EQUIPMENT**  
1 Sinker Davis Sawmill Rig. 1 Surrey Parker Log Loader. 1 Surrey Parker Log Loader Steam Plant. 1 Wheland Gang Edger. 1 Set Live Lumber Rolls. 1 B. T. B. Knife Grinder. Saws from 10" to 60".

#### ENGINES

1 10"x16" Haberkorn. 1 12"x14" Wheland. 2 10 1/2"x12" Class C Wheland. 2 9"x11" Class C Wheland. 1 13"x10" Twin Throttling Wheland Engine. 1 9"x10" Vertical. 1 9"x10" Shepherd. 1 12"x12" Sinker Davis. 1 12"x20" Erie City.

#### MISCELLANEOUS

1 Forbes 2' Pipe Machine. 1 Dean Steam Pump. 1 James A. Fay Matcher. Lot unused 16"x24" Crane Fittings.

**CHAMPION FIBRE COMPANY**  
CANTON, N. C.

### BOILERS

Two 250 H. P. Babcock & Wilcox Water-tube Boilers, insurance certificate 160 lbs. steam pressure, each \$1000. Two 220 H. P. Heine Water-tube Boilers, insurance certificate 150 lbs. steam pressure, each \$900.

**DUZETS & SON, 30 Church St., NEW YORK**  
Send for complete "Bargain List."

## We Buy and Dismantle FACTORIES MILLS MACHINE SHOPS and all kinds of INDUSTRIAL PLANTS

We are always in  
the market to buy  
**Scrap Iron and Steel  
OF EVERY KIND**

## FRANK SAMUEL

Harrison Building  
15th and Market Sts. Philadelphia, Pa.

## FOR SALE PIPE

**Second-Hand  
All sizes, 1/2" to 24"**

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

**Marine Metal & Supply Co.**  
167 South St. NEW YORK

## Mill For Sale

**Entire Plant Refined Iron and Steel Company, Pittsburgh District**

1-1000 H. P. Hamilton Corliss Engine.  
7-150 H. P. and 3-200 H. P. Bass Waste Heat Boilers.

Mill—1—22", Three High.

150 tons Cast-Iron Floor Plates.

1-300,000-lb. 40' Fairbanks Railroad Track Scales.

1-4 1/4-ton Sprague Magnetic Hoist, 54" magnet.

Above only partial list; will furnish complete list on request.

Low prices will be made on any part of this equipment for prompt removal.

## Pumps For Sale

1 Tandem Compound Duplex, 10" discharge pipe, 12" suction pipe, 1440 gal. per minute.

1 Snyder-Hughes Cross Compound Crank and Flywheel, 18"x18"x32" L. P., 10% water plunger, 1900 gal. per minute.

1 Laidlaw-Dunn-Gordon Duplex, 8" discharge pipe, 10" suction pipe, 800 gal. per minute.

1 Hughes Duplex Simple, 16"x18"x12" water plunger.

All the above described pumps are in good condition, and we offer them at 25 per cent of original cost.

**GEORGE A. MCLEAN & COMPANY**

Beaver Avenue and Reedsdale Street

N. S. Pittsburgh, Pa.

### FOR SALE—New Lathes at Bargain Prices

Geared head 20"x10", 18"x10", 18"x8", 16"x8", 16"x6". Cone head 20"x10", 15"x8", 15"x6". All the above with semi-quick-change gears. Second-hand lathes with geared heads, quick-change gears, 16"x8", 16"x6", 15"x6". Second-hand lathes, cone head, plain gears, 29"x18", 27"x16", 20"x10", 18"x8", 13"x6".

**CHAS. T. LEHMAN** Birmingham, Ala.

## SECOND HAND MACHINE TOOLS

OF EVERY CONCEIVABLE TYPE

*Send for Stock List*

**PRENTISS TOOL AND SUPPLY CO.**

New York

## FOR SALE PIPE

**NEW & SECOND HAND**

Furnished with Threads and Couplings. Suitable for All Practical Purposes.

All Sizes In Stock Ready for Shipment

Send us your inquiries and get our prices. It will interest you.

**Eagle Pipe Supply Company, Inc.**

29 Howard Street N. Y. C.

## PIPE

Second-hand, all sizes, 1/2" and larger, with new threads and couplings, guaranteed for service.

1 1/2-yd. Ransome concrete mixer with gasoline motor and loader on wheels.

3 3/4-yd. and 2 1/2-yd. Ransome mixers with engines on skids.

2 No. 2 1/2 Smith concrete mixers with engines on wheels.

1 5-lever Stroudsburg 7x10 cableway engine.

12 Lidgerwood, Lambert and other hoisting engines.

24" and 20" industrial rail and turntables.

1 5 H. P. Metz & Weiss gasoline engine.

1 4-leaf 1-yd. orange-peel bucket.

## PIPE & CONTRACTORS' SUPPLY CO.

3 DOVER STREET, N. Y. C.

New Branch, 343-353 East 123d Street

## PIPE

### FOR ALL PURPOSES

Slightly used Pipe from 1" to 12" with new threads and couplings. Thoroughly overhauled and tested before shipping.

We can save you money.

Jos. Greenspon's Sons Iron & Steel Co. St. Louis, Mo.

## SPECIAL BARGAINS

#### BOILERS

3 250 H. P. Franklin Horizontal Water-Tube, 150 lbs. steam.

1 175 H. P. 72"x20" Horizontal Return Tubular, 120 lbs. steam.

1 150 H. P. 72"x18" Horizontal Return Tubular, 125 lbs. steam.

1 150 H. P. Babcock & Wilcox Water-Tube, 150 lbs. steam.

1 125 H. P. 66"x18" Horizontal Return Tubular, 125 lbs. steam.

1 80 H. P. Vertical, 100 lbs. steam.

1 70 H. P. 54"x16" Horizontal Return Tubular, 125 lbs. steam.

#### CORLISS ENGINES

28"x48" Hamilton.

20"x60" International.

18"x48" Allis.

18"x42" Watts-Campbell.

16"x36" Allis.

16"x32" Rickards.

14"x42" Hamilton.

2 14"x36" Scottsdale.

12"x24" Wetherill.

10"x24" Watts-Campbell.

#### AIR COMPRESSORS

1 18"x20 1/4"-13 1/4"x22" Ingersoll-Sargent Class A Straight Line, two-stage. Capacity 940 cu. ft.

1 22"x22 1/4"x24" Ingersoll-Sargent Class A Straight Line. Capacity 973 cu. ft.

1 12"x14 1/4"x11" Ingersoll-Sargent Class A Straight Line. Capacity 385 cu. ft.

1 12"x12"x16" Ingersoll-Sargent Class C Straight Line. Capacity 275 cu. ft.

1 10"x10"x10" Ingersoll-Sargent Duplex. Capacity 275 cu. ft.

1 10"x10"x10" Cox & Sons Duplex. Capacity 275 cu. ft.

#### DIRECT CONNECTED UNITS

1 200 H. P. 220-volt A. C. Westinghouse 3-phase 25-cycle Generator, direct connected to Buckeye Engine.

1 150 H. P. 250-volt D. C. Crocker-Wheeler Generator, direct connected to 14 1/2"x24"x16" Wright Center-Crank Tandem Compound Automatic Engine, 60 R. P. M.

1 105 H. P. 220-volt 3-phase Westinghouse Alternator, direct connected to Buckeye Engine.

1 50 K. W. 125-volt D. C. Westinghouse 6-pole Generator, direct connected to 10"x18"x10" Westinghouse Compound Engine, 315 R. P. M.

**BOILERS, PUMPS, HOISTING ENGINES**

**WESTINGHOUSE ENGINES, GAS AND GASOLINE ENGINES, HEATERS,**

**STONE CRUSHERS, AND GENERAL EQUIPMENT**

**FRANK TOOMEY, Inc.**

127-131 North Third Street

#### MACHINE TOOLS

##### LATHES

32"x12" New York Safety. 36"x14" Smith.

22"x18" Schumacher & Boye.

30"x18" Bement-Miles.

30"x22" Bement-Miles. 28"x18" Fifield.

27"x21" Pratt & Whitney.

26"x17" Johnson. 20"x12" Fifield.

22"x9" Lodge & Davis. 24"x10" Putnam.

19"x8" LeBlonde, turret attachment.

18"x10" Schumacher & Boye, taper attachment.

18"x6" Hendey Lathe, taper attachment.

33"x Extension Bed Gap Lathe.

18"x13" Reed. 16"x7" Putnam.

##### PLANERS

11"x8" 10"x18" Betts.

60"x60"x14" Sellers, 4 heads.

60"x60"x14" Pond, 2 heads.

48"x48"x16" Detrich & Harvey Open-Side Planer, cross rail lengthened to plane 60" wide, 3 heads, supplementary rolling table.

42"x42"x15" Niles, 3 heads.

36"x36"x12" New Haven, 1 head.

36"x33"x12" New Haven.

33"x33"x12" Woodward & Powell.

28"x28"x7" New Haven, light pattern.

28"x28"x7" Heavy pattern, has radius attachment.

Several small planers.

##### SHAPERS

24" American, back geared.

24" Back-Gear Gould & Eberhardt.

Several small shapers as well as traveling head, besides all sizes of new machines in stock.

##### MISCELLANEOUS

72" Bickford Vertical Boring Mill, 2 heads.

60" Sellers Boring Mill, 2 heads.

45" Sellers Boring Mill, 2 heads.

36"x12" Heavy-Duty Slab Milling Machine.

30" Throat Double-End Punch and Shear.

Sellers make, capacity 1 1/2", weight about 35,000 lbs.

8" Stroke Bement Slotter.

No. 2 Becker-Brainard Vertical Milling Machine, complete with motor.

100-lb. Dienelt & Eisenhardt Belt Hammer.

No. 1 Catlin Pyle Keyseater.

48" Bement Horizontal Boring Mill.

2 No. 406-A Adriance Geared Presses.

2 No. 22 Adriance Riveting Presses.

No. 3 Cincinnati Universal Milling Machine.

No. 3 Adriance Inclimable Press.

No. 3 Kompsmith Milling Machine.

4 No. 6 Whitney Hand Milling Machines.

No. 2 Warner & Swasey Wire Screw Machines.

3-spindle Barr Sensitive Drill Press.

5 No. 103 Blise Card Cutting Presses.

**ENGINES FOR SALE**  
 1 14x18-inch Left-hand Armstrong Bros. Center Crank Throttling Engine, 72x14-inch band wheel, 75 H. P.; good condition.  
 1 28x48-inch Left-hand Greenwald Automatic Engine with girder frame, 16-foot by 31-inch band wheel, 300 H. P.; good condition. For prices and further particulars apply to  
**YELLOW POPLAR LUMBER CO.** Coal Grove, O.

**Diesel Oil Engine**

170 H. P. direct connected to a 120 K. W. 250 volt Western Electric Generator complete; seen running

Address **POWER EQUIPMENT CO.**  
 500 Fifth Avenue, New York

**For Sale Cheap Before Removal**

12 Horizontal Return Tubular Boiler, suspended type, 72" diam. x 18' long, 125 lbs. working pressure; all castings, fittings and stock.

**HOWARD W. READ COMPANY**  
 Third and Arch Sts. Philadelphia, Pa.

**MACHINERY BARGAINS**

A few selections from our big stock of snaps. Write for Free Complete List No. **X.B. 213**.

1000 tons "T" Rails, 12 to 16 lbs. No. **X.B.-SL** Worm Gear Freight Elevator, 2000 lbs. cap.

No. **X.B.-22**. Hoisting Engine, Dbl. Cyl. Drum, reversible link motion, 16 in. x 14 in.

No. **X.B.-33**. 300 Storage Tanks, capacities from 25 to 2000 gals.

No. **X.B.-34**. Sprague Electric 3-phase 20 H. P. Motor.

No. **X.B.-35**. 200 pieces 15-in. 42-lb. "T" Beams.

No. **X.B.-36**. Austin Jaw Crusher, 14-in. x 18-in. Opening.

**HARRIS BROTHERS COMPANY**, Owners Chicago House Wrecking Company 35th and Iron Streets CHICAGO, ILL.

**Special Bargains in Sanders**

1 42" 3-drum Perfection Sander, thoroughly overhauled..... \$150.00

1 48" 3-drum Thomas Sander..... \$100.00

1 48" 3-drum H. B. Smith Sander..... \$100.00

1 48" 3-drum Royal Invincible Sander, used only 3 weeks..... \$150.00

1 54" 3-drum J. A. Fay & Co., fine order..... \$100.00

1 60" 3-drum Columbian Sander in A-1 condition..... \$100.00

**JOINTERS**

1 30" Carrey Hand Jointer..... \$100.00

1 30" Bissell Extra Heavy Hand Jointer..... \$150.00

Woodworking machinery of all kinds. Write, stating your requirements.

**CLEVELAND BELTING & MACH'RY CO.**  
 1922 Scranton Rd. Cleveland, O.

**200 H. P. Boiler for Sale**

1 200 H. P. Return Tubular Boiler, 6 ft. dia., 16 ft. long, 64 4 $\frac{1}{2}$ " tubes, full fire front and back, good as new; taken out to make room for larger boiler.

**SALISBURY LIGHT, HEAT & POWER CO.**  
 SALISBURY, MD.

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For quick removal—

150 K. W. 8-pole C. & C. to 4-valve Fleming engine..... \$1400.00

75 H. P. new G. El. 850 R. P. M. alipring 3-phase motor, with base pulley and controller..... 500.00

50 H. P. 3-phase G. E. complete, 850 R. P. M. .... 200.00

50 H. P. 2-phase G. E. complete, 850 R. P. M. .... 200.00

Carload Small Direct Current Semi-enclosed Motors at following prices:

1/2 H. P. 1400 R. P. M. .... 18.50

1/2 H. P. 1400 R. P. M. .... 11.00

1/2 H. P. 1400 R. P. M. .... 16.00

1 H. P. 1400 R. P. M. .... 23.50

Special price in lots of ten.

We carry large stock electrical machinery. Let us have your requirements.

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**Pumping Engine FOR SALE**

10,000,000-gallon Barr Vertical Triple Expansion Crank and Flywheel Condensing Pumping Engine, 42" stroke, cylinders 28" x 45" x 72". Now in service under 350-foot head, 100 pounds steam pressure. Must be removed to make room for larger unit. Ready for delivery in October. For particulars address

BURTON LOWTHER, Chief Engineer Water Department City Hall, Kansas City, Mo.

**FOR SALE**

1 100 K. W. G. H. 250-volt D. C. Generator, D. C. to high-grade auto. engine.

100 K. W. Jeffrey 250-volt, belted to McEwen 16x16 engine.

100 K. W. Morgan-Gardner 250-volt, belted to 16x16 Skinner enclosed engine.

Both good for 125 K. W.

In stock.—Immediate shipment.—Guaranteed first-class electrically and mechanically.

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2—150 H. P. Automatic Horizontal Tandem Compound Steam Engines.

1—100 H. P. Gas Engine.

**Salamanca Engine-Iron Co.**

SALAMANCA, N. Y.

516 Empire Bldg., Pittsburgh, Pa.  
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**CONTRACTORS' EQUIPMENT FOR SALE CHEAP**

One Land Pile Driver, 3000-lb. hammer, 50 ways and steel rollers.

One Steel Stack, S. S., 6' x 100'.

One Steel Stack, S. S., 10' x 150'.

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Buy, Sell and Exchange Machinery of All Kinds

**WRITE US YOUR WANTS**

**CONCRETE MIXERS**

1 1/2-yd. Koehring Mixer, boiler and engine on truck, side loader and water tank. Has new drum and tracker wheels.

1 No. 10 Chicago Mixer, gasoline engine on tracks, side loader and tank, 1 year old.

1 1/2-yd. Smith Mixer, boiler and engine on truck. Two with side loader and tanks. Overhauled, ready for immediate shipment.

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 Merchants Building Cincinnati, Ohio

**THERE IS A REASON**

why our properly rebuilt machinery gives satisfaction

**ASK US**

**ENGINES, CORLISS**: 26x46 Filer & Stowell, heavy duty; 24x48 Hamilton; 18x42 Lane & Bodley; 16x42 Allis; 14x42 Hamilton; 14x36 Nagle; 12x18 Hamilton; 10x30 Hamilton; 10x16 Hamilton.

**ENGINES, AUTOMATIC**: 22x22 Ridgway; 19x18 Ball; 14x14 Ideal; 10x16x12 Buffalo Compound; 12x14 Green; 12 $\frac{1}{2}$ x12 Armington & Sims; 10x18 Buckeye; 9x10 New Victor; 8x14 Noyes; 8x10 McEwen; 6x10 Harrisburg.

**ENGINES, THROTTLING**: 20x24 H. S. G.; 16x18 Skinner; 16x18 Ames; 14x14 Lewis, vertical; 12x13 New Enterprise; 12x14 Gibbs; 11x16 H. S. & G.; 10x12 Ajax; 10x15 Nagle; 9x16 Brownell; 8x10 New Erie; 8x10 Brownell; 7x10 Atinas; 6x6 Beggs; 3x4 Kriebel.

**BOILERS, STATIONARY**: HIGH PRESSURE: 1 200 H. P. for 125 lbs.; 2 150 H. P. for 150 lbs.; 3 150 H. P. for 125 lbs.; 2 100 H. P. for 125 lbs.; 2 80 H. P. for 125 lbs. Standard from 150 H. P. to 20 H. P. for 100 lbs.

**BOILERS, FIRE BOX**: 150 to 10 H. P. high and low pressure.

**BOILERS, VERTICAL**: 100 to 4 H. P. plain and submerged tubular.

**GENERATORS AND MOTORS**: All sizes and kinds, belted and direct connected.

**MISCELLANEOUS**: Heaters, open and closed; pumps, all sizes; sawmills; corn mills and feed grinders; exhaust fans and blowers; woodworking machinery; ironworking tools; leather, rubber and canvas stitched belt; pipe, valves and engine and boiler fittings.

Soles manufacturers of the Leader Injector and Ejector. Ask for circular.

**Used Machinery FOR SALE**

The following used machinery is offered for sale, in good operating condition, located at Goldsboro, N. C.: 2 80 H. P. return tubular boilers, 1 80 H. P. return tubular boiler, 1 80 H. P. center crank engine, 1 40 H. P. center crank engine, 1 Glen Cove planer and matcher 6x10 in., 1 Glen Cove planer and matcher 6x14 in., 1 complete dry kiln with 10 ft. feed pipe. Low prices for prompt removal.

Address Box 167, Burgaw, N. C.

**Electrical Machinery**

For quick removal we are offering a 150 K. W. 250 V. Western Electric Generator direct connected to a Watertown engine. Unit in excellent condition. Price \$1750.

We also carry a large stock of all kinds of electrical machinery. Let us have your requirements.

**GEORGE SACHSENMAIER & CO.**, 145 N. Third St., PHILADELPHIA

In replacing our manufacturing equipment we find the following first-class

**Used Machine Tools**

which we offer at attractive prices

16" x 6' Reed.

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20" x 8' Lodge & Shipley, Q. C. G.

20" x 10' Lodge & Shipley, Q. C. G.

20" x 12' Lodge & Shipley, Q. C. G.

24" x 8' Lodge & Shipley, Q. C. G.

**SPECIAL LATHES**

No. 3 Lodge & Shipley Rapid Reduction Lathe.

24" x 7" Lodge & Shipley Chucking Lathe.

2 18" x 8" Lodge & Shipley Single Pulley Driven Lathes.

**METAL SAWS**

Globe Power Hack Saw, 5' capacity

**MISCELLANEOUS MACHINE**

One Marion Double Grinder.

One Marion Double Grinder on stand.

One Diamond Disk Grinder on column.

One Sturtevant Blower, diameter of outlet 2 $\frac{1}{2}$ "

One "Ohio Planer," 34" x 24" x 12", with two heads on cross rail.

Universal Swivel Table for Radial Drill.

Brown & Sharp Grindstone Frame for 5" x 36" stone.

One Mueller Grindstone Frame for 4" x 27" stone.

One 12" x 40" Mumford Molding Machine.

Write for complete description with prices of machines in which you are interested.

**The Lodge & Shipley Machine Tool Co.**  
 CINCINNATI, OHIO

**FOR SALE****ALTERNATOR**

Direct Connected to

**Corliss Engine**

1—400 K. W. 60-cycle, 3-phase, 440 volt Alternator, direct connected to 24x44 Heavy Duty Rolling Mill Type Frame Double Eccentric Corliss Engine.

This outfit is in excellent condition, ready for immediate delivery and service.

**Pfannmueller Engineering Company**

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**100 H. P. ECONOMIC BOILER**

Cheap before removal. Made by Erie City Iron Works; complete with fixtures and fittings; good for 100 lbs. pressure; low price to quick buyer to save cost of moving.

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Send me your inquiries

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**FOR SALE**

Vertical and Locomotive Type Boilers, Holsting Engines, Concrete Mixers, Clam Shell with Counterweight Drum. Other used equipment.

CHAS. E. WINGO, JR.

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**Road Equipment**

2 10-ton Kelly-Springfield Road Rollers, double engine, 3 years old, perfect condition, \$1100, f. o. b. Pittsburgh, Pa.; guaranteed.

1 10-ton Kelly-Springfield Road Roller, single engine, perfect condition, guaranteed, \$1100, f. o. b. Pittsburgh.

1 Porcupine Scarifier, almost new, \$250, f. o. b. Pittsburgh.

All above equipment overhauled and guaranteed ready for immediate shipment.

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Wabash Building, Pittsburgh, Pa.

**RAILS NEW AND RELAYING RAILS RAILROAD BRIDGES and EQUIPMENT HENRY LEVIS & COMPANY**  
 26 South Fifteenth Street PHILADELPHIA

**CONTRACTORS' EQUIPMENT FOR SALE**

1 22 H. P. Buffalo Pitts Traction Engine.  
 4 7-1/2yd. Buffalo Pitts Traction Cars, 19" tread.  
 4 2 $\frac{1}{2}$ -yd. Steubener Excelsior Bottom-Dump Buckets.

**CABLEWAYS**

1 Lidgerwood, 1700' span, 10x12 engine, complete; no towers.  
 1 Lidgerwood, 875' span, 9x10 engine, complete; no towers.  
 1 Lidgerwood, 750' span, 8x12 engine, complete; no towers.  
 1 10-ton Browning Crane, 38' boom, fine condition.

**BOILERS**

1 40 H. P. on wheels, 100 lbs. steam.  
 3 6x16 H. T. Boilers, butt strapped, 120 lbs. steam.

**AIR COMPRESSORS**

2 1900' Belt Drive Rand D 2 Type, 17x27x30.  
 1 845' Belt Drive Rand D 2 Type, 22x4x14.  
 1 Ingersoll-Rand, Class A, steam driven, 20 $\frac{1}{2}$ x34.

Send for our complete list.

**STERLING MACH'Y CO.**  
 30 Church Street NEW YORK

**SECOND-HAND AND NEW MACHINERY**

1 17x22' Locomotive; 1 14x20' Locomotive; 1 Ingersoll-Rand Compressor, Imperial type, 570 cubic ft. air; 1 Ingersoll-Rand Compressor, Imperial type, 250 cubic ft. air; 1 Rand Drill Compressor, 75 cubic ft. of air; 1 37' Fly & Scott Engine Lathe, as good as new; 1 Georgia Iron Works Trimmer; 1 10x12 Ajax Engine and Boiler on wheels; 100-horsepower Tubular Boiler; 1 16-horse-power Tubular Boiler; 1 20x20' Slab Conveyor; 1 6" Pipe Bent for Slab Conveyor; 1 Kentucky Power Cane Mill; 1 Boiler for Turpentine Pump, new; 1 Williams Vulcanizer for Tubes and Casings; 1 Fairbanks-Morse 2-horse-power Engine and Pump, new; 1 Thompson No. 3 Log Jack, new; 1 Thompson No. 3 Slab Conveyor, new; 1 Thompson No. 1 Slab Conveyor, new; 1 Thompson Wood Splitter, new; 1 Thompson No. 1 Power Cane Mill, new; 1 Pipe Machine, second-hand; 1 9" Filer & Stowell Twin Engine; large stock of Pulleys and Hangers.

If you do not see what you want, write us, as our stock is changing daily.

**Thomasville Iron Works Thomasville, Ga.**

Contractors' Plant For Sale At a Bargain

2 10-ton Road Rollers.

2 Steel Tank Sprinkler Wagons.

1 25 H. P. Traction Engine.

2 No. 4 Champion Crushers on wheels with Revolving Screen and Elevator.

6 Wheel Scrapers, Steam Drill Pump, etc.

2 1/2-yard Smith Mixers with Steam Boiler and Engine mounted on same frame.

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ATLANTA, GA.

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FREIGHT CARS

PASSENGER COACHES

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LARGEST STOCK REBUILT EQUIPMENT IN U. S.

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ROLLING MILLS: HYDE, CLEARFIELD COUNTY, PA.

NEW YORK GENERAL OFFICES: PHILADELPHIA, PA. PITTSBURGH

MANUFACTURERS OF RAIL CARBON; ALSO BILLET STOCK

### LIGHT STEEL RAILS

12, 16, 20, 25, 30, 35, 40 and 45 lb. SECTIONS  
SPlice Bars, TRACK BOLTS AND SPIKES, FROGS AND SWITCHES

#### RELAYING STEEL RAILS

IN ALL SECTIONS FOR IMMEDIATE SHIPMENT FROM STOCK

#### Relaying Rails

56 to 80-lb. Sections

Ready for prompt shipment. New or relaying light rails. New frogs, switches, etc. 20-ton used Climax engine in excellent condition. Specifications on request.

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### RAILS

### LOCOMOTIVES

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LOCOMOTIVES—Narrow and Standard Gauge. 150 Locomotives at our shops 6 to 80 tons. Freight and Passenger Cars

Largest Stock Locomotives in United States

Southern Iron & Equipment Co.  
ATLANTA, GA.

### Sweet's Steel Co.

WILLIAMSROFT, PA.

Manufacturers of

### Light Steel Rails

12, 16, 20, 25, 30, 35 and 40-lb. Sections.  
Also Splices, Bolts, Nuts and Spikes.  
Our Rails are first quality. A. S. C. E.  
Section, carefully inspected.

Prompt Shipments from Stock  
Bedstead Angles and Special Shapes.

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#### SIX-TON ASPHALT ROLLER

in excellent condition. Write  
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Care The Manufacturers Record

#### Tractor-Roller and Wagons FOR SALE

A Buffalo Steam Ten-Ton Tractor and Roller, and Twelve 5-Ton Wagons for use with it. Used about three months.

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Ten-ton Gasoline Road Roller, used but one season. Will make low price and hold roller for spring delivery if desired. Write

FITCH PAVING COMPANY  
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20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 80, 85,  
90 and 100 lb., all with Fish Plates.

#### NEW RAILS

8, 12, 16, 20, 25, 30, 35, 40, 45 lb., at manufacturer's prices.

LARGE TONNAGES — Carload and less carload lots, advantageously located for Southern delivery.

Splice Bars for any section rail in stock. Frogs, Switches, Bolts, Nuts, Spikes, and all Track Accessories.

New and Second-hand Pipe, all sizes, with good Threads and Couplings.

Rebuilt Locomotives, Cars and Equipment. All second-hand materials guaranteed. Subject to inspection during loading, or will ship subject to your approval at destination. Attractive prices. Quick Shipment.

Before buying write for our bulletin.

L. B. FOSTER CO., Park Building, Pittsburgh, Pa.

### LOCOMOTIVES

#### 10-WHEEL TYPE

Six—Built by Baldwin Locomotive Works in 1906, excellent condition, modern in every respect; cylinders 20x28", driving-wheel centers 60", weight about 80 tons; suitable for either freight or passenger service. Ready for immediate delivery.

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729 Candler Building,  
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#### For Sale or Rent

##### AIR COMPRESSORS

1 22x22-1/2x24 Sullivan, steam driven, class WB 2, straight line, 2-stage, cap. 1160 cu. ft. 1 24x24x30 McKernan, class A, straight line, steam driven, cap. 1414 cu. ft. 1 24x24x30 Ingersoll, class A, steam driven, straight line, cap. 1223 cu. ft. 2 16x20-1/2x16 Ingersoll-Sargent, class H-1, duplex, steam driven, cap. 1540 cu. ft.

##### BOILERS

5 250 H. P. Babcock & Wilcox, 150 lbs. steam.  
HOISTS (Electric)

2 Lidgerwood, 60 H. P., D. C. and swinger, D. C.

##### HOISTING ENGINES (Steam)

2 Lidgerwood, 14x18, D. C., 3 tandem drum, reversible link motion.

1 Lidgerwood, 10x12, D. C. S. D., reversible link motion.

1 Lambert, 10x10, D. C. D. D., with boiler.

2 Lambert, 8x10, D. C. D. D., with Massachusetts boilers.

1 Lambert, 7x10, D. C. D. D., with boiler.

1 Mundy, 7/4x10, D. C. D. D., with boiler.

1 Mundy, 6/4x10, D. C. D. D., with boiler.

1 O. & S. 6/4x8, D. C. D. D., with boiler.

##### STEAM SHOVELS

2 65-ton Bucyrus, 2½-yd. dippers, \$3000 each.

##### LOCOMOTIVE CRANES

1 7-ton 4-wheel Industrial, 21' boom.  
1 15-ton 8-wheel Industrial Wrecking Crane, 20' boom, goose neck.

##### ENGINES (Steam)

2 Fire Engines, condition first class.

##### LOCOMOTIVES

2 10x16 36" gauge Baldwin, saddle-tank.

HENRY A. HITNER'S SONS CO.

Station K PHILADELPHIA, PA.

### Passenger Coaches

Released by Pennsylvania R. R.

HENRY LEVIS & CO.

26 South 15th Street

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### Relaying Steel Rails

35-lb., 40-lb., 56-lb., 60-lb., 70-lb., 80-lb.,

85-lb. and Angle Bars to lay same

Advantageously located for Southern delivery; also other weights of RELAYING RAILS, in different sections of the country; and NEW STEEL RAILS, all weights. We handle first-class Relaying Rails, and do not select them from scrap. Let us know your requirements. We buy Rails fit to relay, and pay spot cash.

ROBINSON & ORR Pittsburgh, Pa.

Low Prices on New FROGS and SWITCHES.

#### LOCOMOTIVES

#### AND STEAM SHOVELS

Four standard-gauge Climax locomotives, weighing 30 to 45 tons; excellent condition; thoroughly overhauled; immediate shipment.

Also forty other standard and narrow gauge locomotives at our shops, Birmingham.

#### STEAM SHOVELS

We have ten steam shovels, of different sizes and makes, thoroughly overhauled. Write us for prices and terms.

BIRMINGHAM RAIL & LOCOMOTIVE CO.

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414 Coffee Exchange Bldg.

New York City

### Plant and Equipment FOR SALE

Including Locomotives, Gondolas, Dericks, Hoisting Engines, Boilers, Concrete Mixers, Rock Drills, Buckets, Pumps, Engines, Elevators, Conveyors, and Camp Equipment.

### ALABAMA POWER COMPANY

Engineering Department,  
Birmingham, Alabama.

### EQUIPMENT BARGAINS

1 Contractor's outfit; Wagons, Slip Scrapers, Dump Cars, 36" gauge.

1 Little Giant Steam Shovel.

1 Huber Traction Engine.

1 Hoisting Engine.

1 Centrifugal Pump.

Boilers, Stack, etc.

1 Porter build Locomotive, Saddle-Tank, 7x12,

36" gauge, new.

1 standard gauge 17x24 Baldwin.

1 36" gauge 9x14 Saddle-Tank Vulcan.

1 36" gauge 9x14 Saddle-Tank Porter.

1 10x16 36" gauge Richmond Loco. Works

6-wheel Saddle-Tank.

1 42" gauge American type Va. Iron Works,

9x16.

1 42" gauge Saddle-Tank Porter.

1 45-ton Vulcan Steam Shovel on trucks,

standard gauge.

J. H. MACLEARY, SUFFOLK, VA.

### A. B. C. E. Sections LIGHT STEEL RAILS

PROMPT DELIVERY.

8, 12, 16, 20, 25, 30, 35, 40 pounds per yard.

With Splices and Spikes.

UNITED STATES RAIL CO.

Manufacturers, Cumberland, Md. Certificates of inspection by Hildreth & Co., Inspecting Engineers of New York City, assuring absolutely first quality, furnished free of cost.

### Locomotives Four wheel type

40 tons; 17" x 24"; 160 lbs. pressure

Overhauled  
Modern

M. H. WILSON & COMPANY  
ARCADE BUILDING  
PHILADELPHIA

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FOR SALE

THE RAULF COMPANY

53 Patton Bldg. Milwaukee, Wis.

LACKAWANNA STEEL SHEET PILING, RAILS, LIGHT AND HEAVY SECTIONS, STRUCTURAL SHAPES.

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are built to give long life and satisfactory service—

Crusher jaws of manganese steel, bearings fitted with accurately machined bronze shells, adjustable by convenient hand wheel to crush any size from 1/4 inch to 3 inch—

Same distinctive features in roller design—all sizes.

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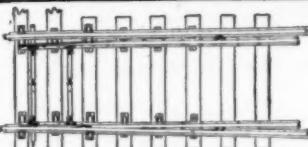
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THE WM. J. OLIVER MFG. CO.

(Dumps by Air or Hand)  
Only AIR DUMP CAR under absolute control of operator. Can be brought back to upright position, after passing center of gravity, before entire contents of car have been unloaded. This admits of equal distribution of material on both sides of track. Write.

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Portable and Industrial Track

THE CINCINNATI FROG &amp; SWITCH COMPANY

Manufacturers

(2)



## Steam Shovels      Dump Cars Locomotives      Locomotive Cranes

We have 1000 Bargains in the above machinery.  
We lease or rent, with privilege of purchase.

### CONTRACTORS' SERVICE COMPANY

Renters and Sellers of Guaranteed Used Equipment.  
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NEW YORK CITY

## Just Purchased, and Offer Subject Prior Sale, 70 Track Miles of Relaying Steel "T" Rails

Weighing 60 Lbs. to 80 Lbs. Per Yard

Suitable any delivery, at attractive prices. Write us at once.  
National Steel Rail Co., 1030-1032 Pierce Building, St. Louis, Mo.

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## RAILROAD FROGS Switches, Switch Stands and Rail Braces

CONLEY FROG &amp; SWITCH COMPANY

Manufacturers

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## CONTRACTORS' EQUIPMENT

Thoroughly Overhauled

Immediate Shipment

- 1—45-ton Vulcan shovel, style "F."
- 1—65-ton Vulcan shovel, style "E."
- 1—Davenport locomotive, 9x14 cylinder, 36" gauge.  
Rails and fastenings, all weights.

R. C. HOFFMAN & COMPANY  
(INCORPORATED)

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**THE WEIR FROG CO.**  
Manufacturers of  
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## RELAYING RAILS

1000 Tons 75 Lbs. Per Yard.  
Located in Central Pennsylvania, suitable for delivery at Buffalo, New York,  
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CONTINENTAL IRON &amp; STEEL CO.      2 Rector St., New York

**THE AMERICAN FROG & SWITCH CO., Hamilton, Ohio**  
Frogs, Switches, Switch Stands, Rail Braces

## Put Westerns On Your Hardest Job

Run them day and night. Use them  
with the steam shovel. Run them  
over rough roads, and you will  
always find them "on the job."

## Western Dump Wagons

are built for hard, continuous work,  
and especially meet the demand of  
those wanting only the best.



Get full details  
showing many  
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**WESTERN WHEELED SCRAPER CO.**  
AURORA, ILLINOIS

EARTH AND STONE HANDLING MACHINERY

## AUSTIN GYRATORY CRUSHERS

Made in eight  
sizes



50 to 5000 tons  
per day



Plans and Specifications submitted and  
expert advice free on any problems involving rock-crushing or earth handling.

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We Manufacture—Road and Elevating Graders, Scarifiers, Road Rollers,  
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Every part is made with reference to long life. Every part is made interchangeable for each size of locomotive, so worn parts may be quickly replaced without a machine shop. This is most important in keeping the engine on the job.

Get in touch with us.

## AMERICAN LOCOMOTIVE COMPANY

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McCormick Building, Chicago, Ill.

Carl G. Borchert, Pioneer Bldg., St. Paul Minn.

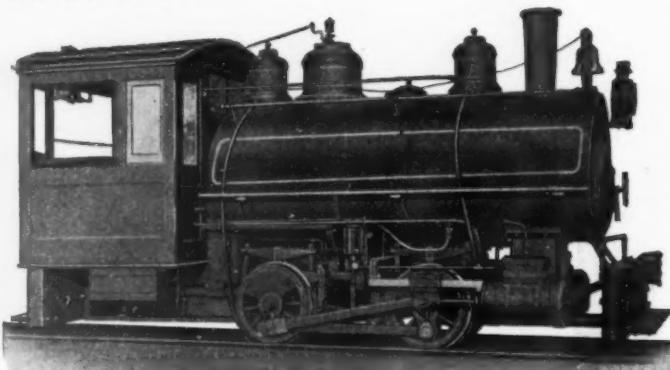
N. B. Livermore & Company, Los Angeles and San Francisco, California  
Northwestern Equipment Company, Seattle, Wash., and Portland, Oregon

Dominion Express Bldg., Montreal Canada

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## CONTRACTORS

make no mistake when they buy a Baldwin locomotive. They get an engine that is suited to the work and built for severe service.



The illustration shows one of the standard Baldwin "dinkies"—an 18-ton engine with heavy frames, large boiler, ample water and fuel capacity and high-class equipment; a reliable locomotive that is built for service and will serve you well.

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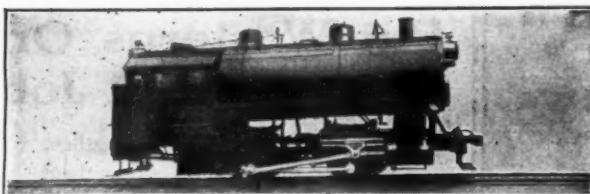
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## LIMA LOCOMOTIVES



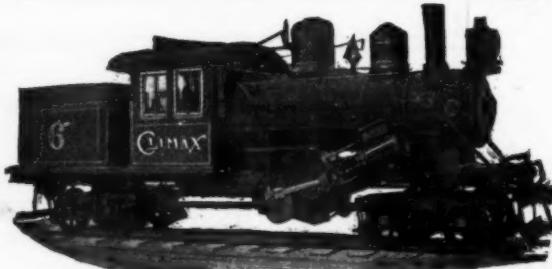
Andrews Steel Co., Saddle Tank Type

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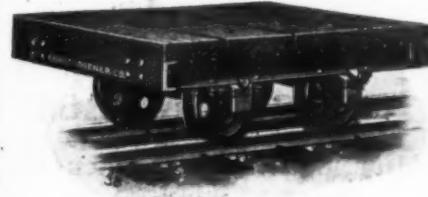
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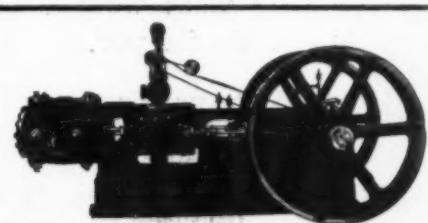
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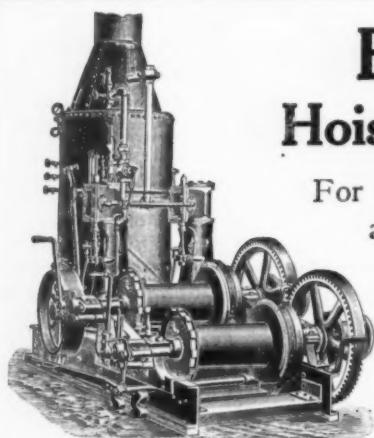
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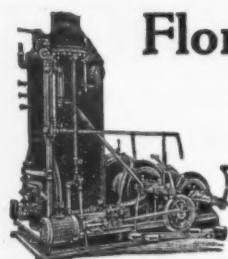
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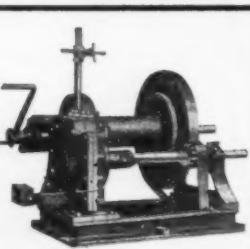
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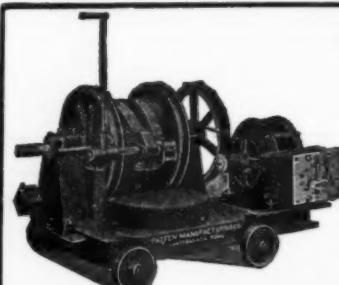
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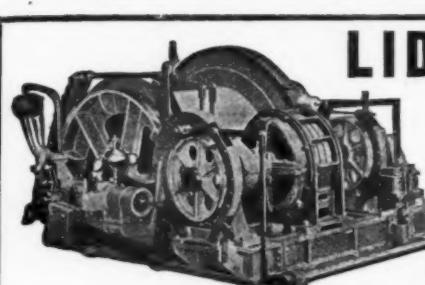
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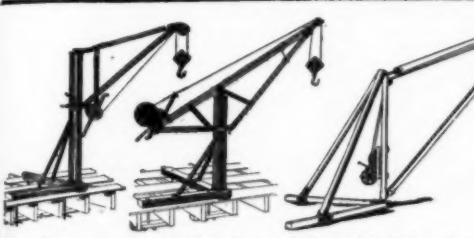
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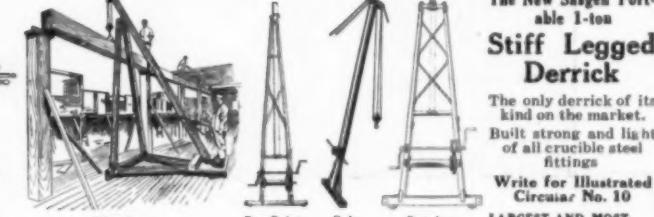
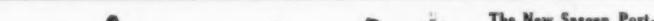
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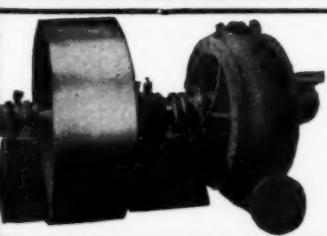


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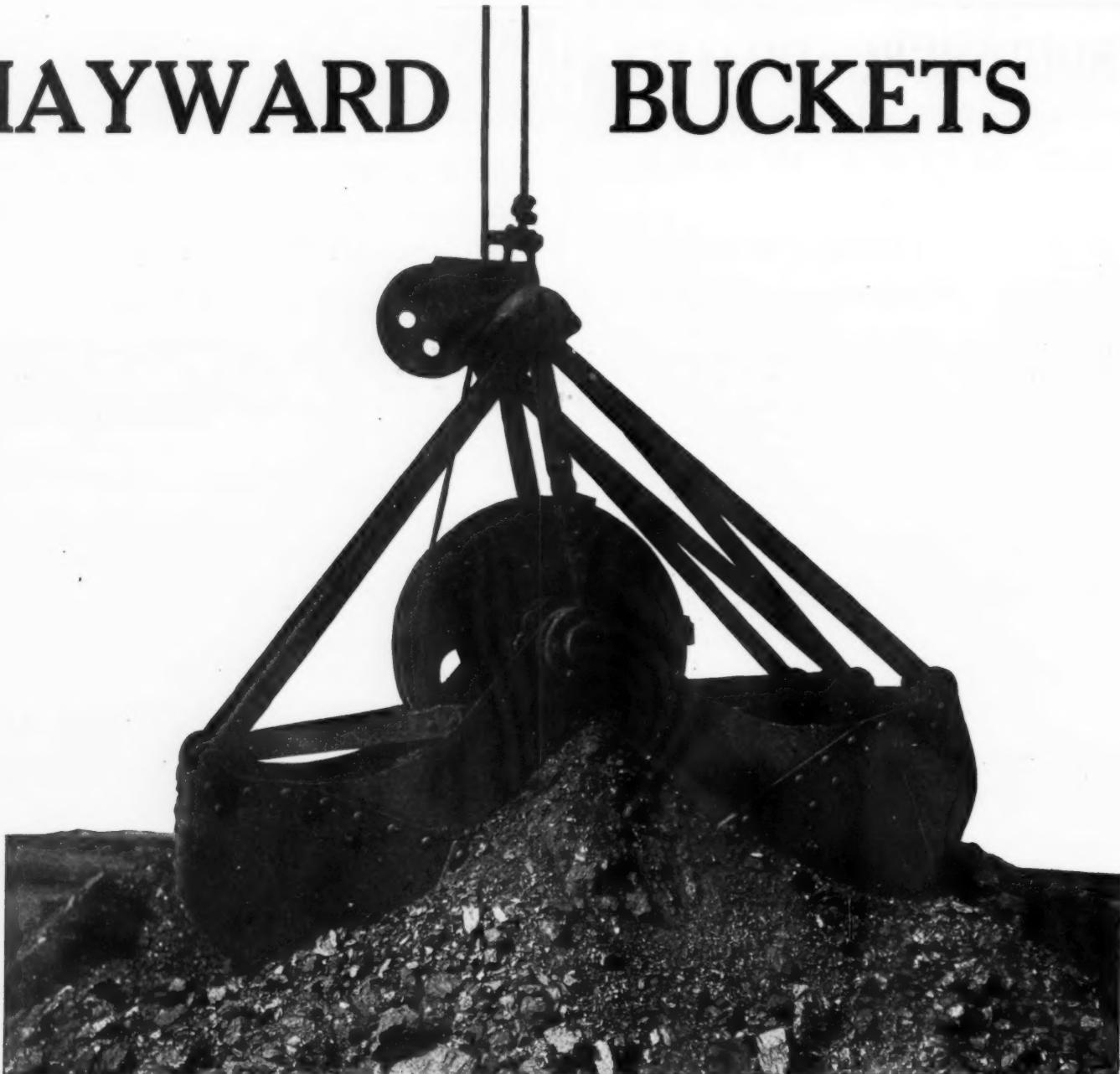
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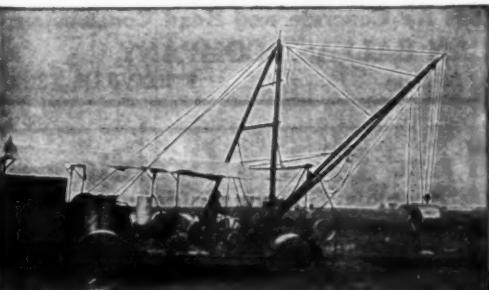
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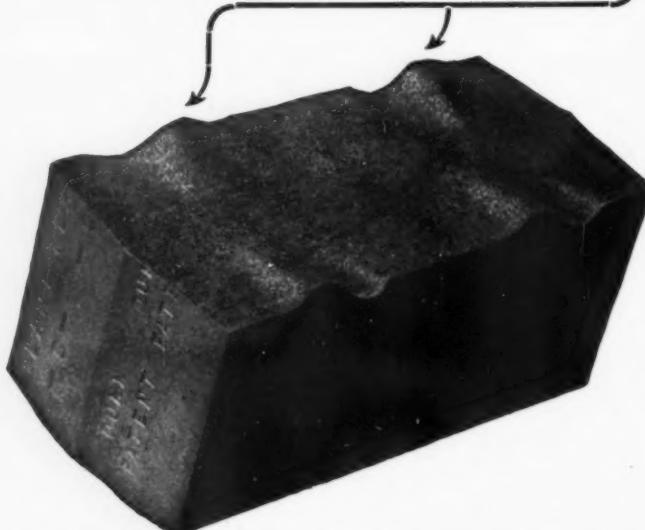
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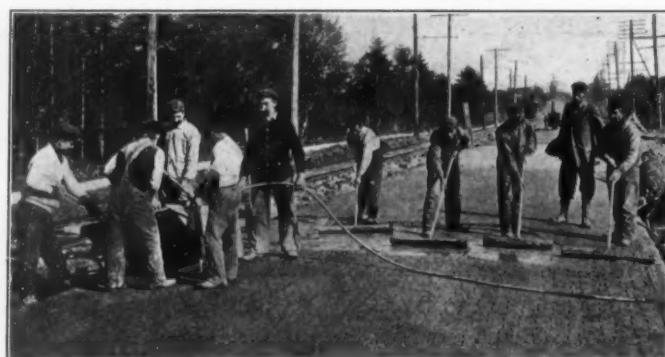
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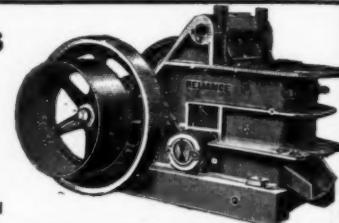
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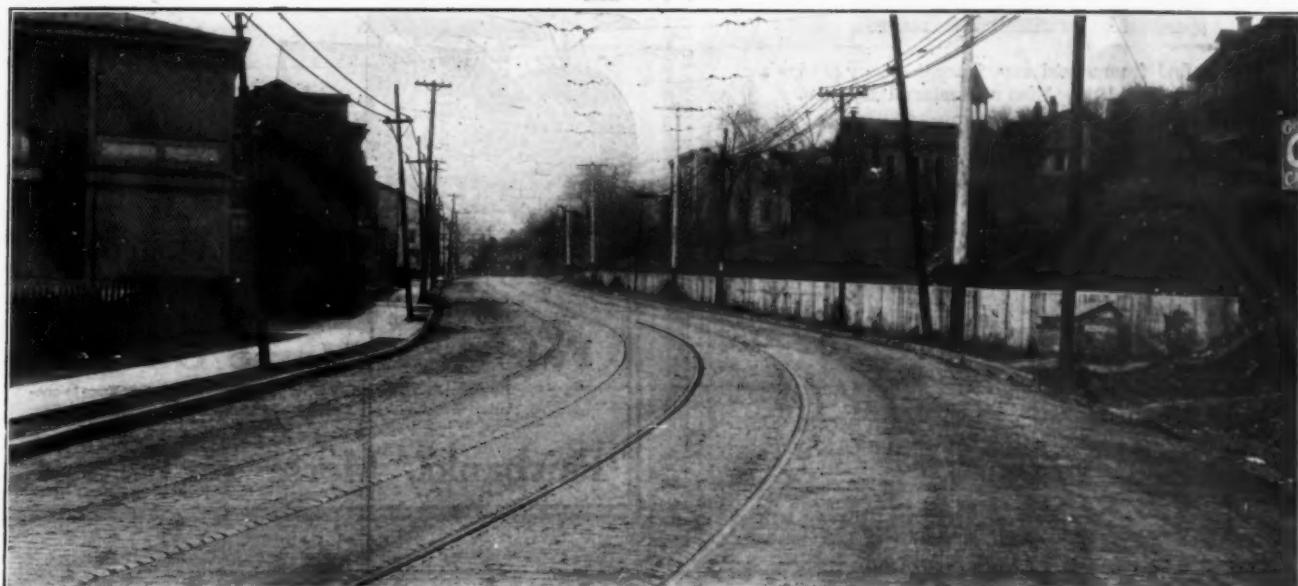
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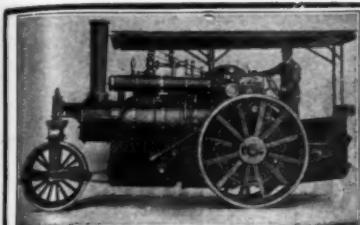
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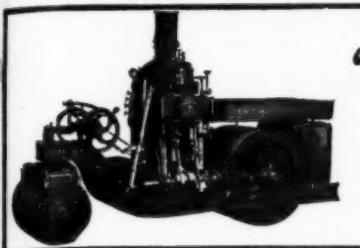
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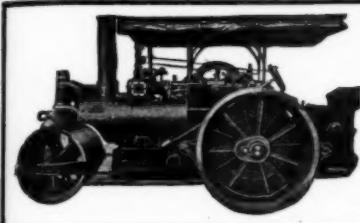




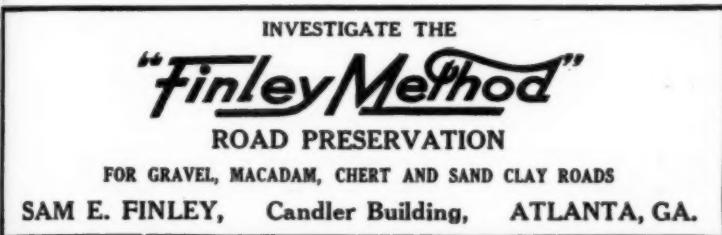
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ALL TYPES ALL SIZES  
Steam and Gasoline  
**The Kelly-Springfield**  
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SPRINGFIELD OHIO  
GET CATALOG



Get  
**"ERIE" ROLLERS**  
for LONG SERVICE  
and BEST RESULTS  
**ERIE MACHINE SHOPS**  
ERIE, PENNA.



**Buffalo Pitts Rollers**  
BUILT FOR SERVICE  
Made in all types and sizes for all purposes,  
2½ to 20 tons.  
**BUFFALO STEAM ROLLER CO.**  
BUFFALO, N. Y.



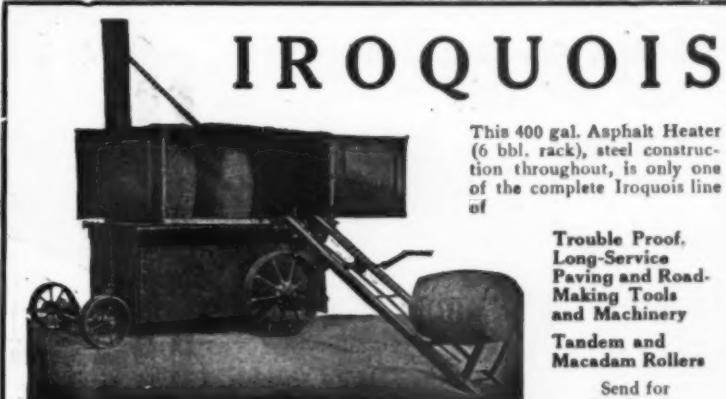
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are BUILT for  
**ECONOMICAL ROAD CONSTRUCTION**

Look at the steady string of wagons in the illustration above. Doesn't that spell economy? This contractor is keeping his men and teams busy all the time—and not part of the time as with hand labor. And you, too, can do this with a MARION Revolving Shovel. You can keep your men and teams working every minute you are PAYING them. Do you want proof? Then write for Catalog 56, TO-DAY.

**The Marion Steam Shovel Co. (Established 1884)**

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**The Barber Asphalt Paving Co.**  
(Iroquois Works) 178 Walden Ave., Buffalo, N. Y.

**Three  
HUBER  
Gas Tractors**

building new city streets. As a hauling power, they cannot be excelled. Operate on either gasoline or kerosene with equal satisfaction and economy. Have tremendous pulling power, without excess weight.

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**HERE'S WHAT  
THEY'RE DOING  
ALL OVER  
THE COUNTRY**

Replacing troublesome  
and dangerous wooden  
bridges with

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THESE CULVERTS ARE—

Tough and practical—adapted to the difficult places—convenient to handle and install, and *lasting* because made from the purest, most even and most durable iron on the market.

For full information with regard to American Ingot Iron Corrugated Culverts, Siphons, Sheets, Plates, Roofing and Formed Products, write to

**ARMCO CULVERT PUBLICITY BUREAU**

**CINCINNATI, OHIO**

Insist on the Best  
and get this  
Culvert



## **Galion Standard Corrugated Culverts**

Are made of Sterling Non-Corrosive Sheets, which will last longer in sulphuric acid than any other metal ever used in sheet metal culverts. We will gladly give you the proof. The wonderful efficiency, strength, durability and economy of Standard Corrugated Culverts have made them popular with Road Builders everywhere whenever the best is demanded. Catalog describing our complete line of Road Machinery on request.

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QUALITY OF MATERIAL USED IS THE FINEST AND PUREST KNOWN  
CONSTRUCTED BY EXPERIENCED WORKMEN ALONG MODERN LINES  
FOR WEAR. RESULT—

**BEST CULVERT ON EARTH**

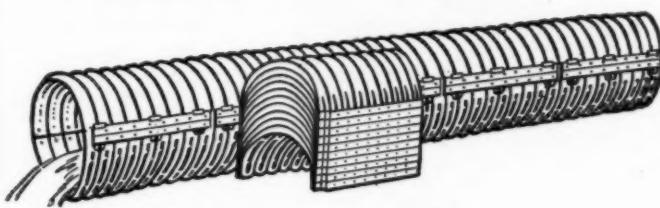


**SALISBURY METAL CULVERT COMPANY**  
SALISBURY, N. C.

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## BUtT-JOINT NESTABLE METAL CULVERT

(Patented)



Ten feet constructed and ten feet nested.  
Every half section exactly alike.  
No holes cut in metal to catch water or oxygen.  
No steel bolts or rivets to start electrolysis.  
Any child can construct it.

These culverts have been used for every conceivable purpose and in all parts of the country. They have proven so satisfactory that our *repeat* orders have kept our factories busy. We could furnish hundreds of references, but after all your own experience is the best evidence. A trial order will determine the matter for you. We guarantee satisfaction.

### PERMANENT ROADS

We use the best metal that can be manufactured from pure ingots.



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FACTORIES:  
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If you are contemplating installing a culvert that will last for years to come, buy our

### American Ingot Iron Culverts

We also highly recommend our

### Lennon's Smooth Metal Flume and K. T. Water Gates

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### Lone Star Culvert Company HOUSTON, TEXAS



Special Shovels. Figure it out—can you afford to buy other shovels, if our Special shovels will handle enough more material per man to pay for themselves over the other shovels? We will guarantee above results.

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are in use handling Coal, Ores, Sand and Earth in every Port of the United States.

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for handling Concrete on all large Water-Works and Power Dams

Catalogue and prices on application.

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## Do you FULLY realize—the value of

99.90%  
PURE



99.90%  
PURE

## the metal used to make **'ACME' (NESTABLE) CORRUGATED CULVERTS?**

This NO-CO-RO METAL (literally an anti-corrosive metal) is guaranteed by a BOND to be 99.90% PURE.

In other words, it does not contain over 10/100 of 1% of Carbon, Manganese, Sulphur, Phosphorus or Silicon—all bad for long life in iron.

NO-CO-RO METAL is not only the purest commercial iron, but it is also the most durable and efficient sheet metal made from iron ore.

So, you see, you not only get the highest quality of METAL in "ACME" (Nestable) Culverts—you also get the great advantages of their NESTABLE construction, cutting transportation, handling and installing costs to minimum. Get CATALOG G-9.

For quotations for delivery in North and South Carolina, address—  
THE CAROLINA METAL PRODUCTS COMPANY, Manufacturers in Wilmington, N.C.

For quotations for delivery in Virginia, West Virginia and Maryland, address—  
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For quotations for delivery in Florida and Georgia, address—  
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## THE CANTON CULVERT CO. MANUFACTURERS CANTON, OHIO, U.S.A.

### THERE ARE MORE HARRY'S RED "H" BRAND

## Corrugated Metal Culverts

in use in the Southern States today than any other kind, and the reasons are obvious.

We have been in business longer than any other Culvert concern in existence.

We are not confined to any one State or District.

Our business methods are absolutely fair and honest.

And our best efforts are given to improving our Culverts and keeping them just a little ahead of the other fellow's.

A Brand New Catalog just off the press.

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## CULVERTS OF AMERICAN INGOT IRON CORRUGATED AND GALVANIZED ARE AN INVESTMENT

Our "Friction Joint" Gives Maximum Strength

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All Machinery Necessary for Road Building.  
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NUTS  
**UPSON**  
BOLTS

You Can Depend on Upson  
Plow Bolts

Strength, accurate pointing and threading, fine finish—you'll find these qualities in Upson Plow Bolts just as in all other kinds of Upson nuts and bolts.

This dependable uniformity comes through our complete control of every step in manufacture. From ore to shipping platform every process is under our constant supervision.

*Our Southern Representatives, Messrs. V. A. Moore & Co., at Atlanta, are always at your service.*

**THE UPSON NUT CO.**

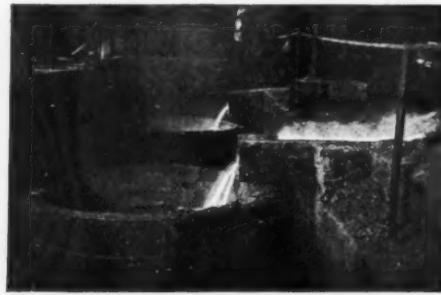
Write for catalog listing complete lines of nuts, bolts, rivets, etc.

Bolts      Nuts      Rivets  
Open Hearth Steel  
Billets      Bars

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NEW YORK, N. Y.      CHICAGO, ILL.

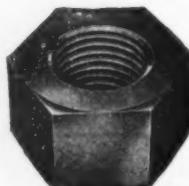
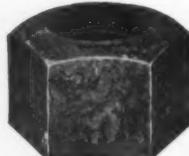
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V. A. MOORE & CO.,  
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THE GEO. F. EBERHARD COMPANY,  
San Francisco, Cal.



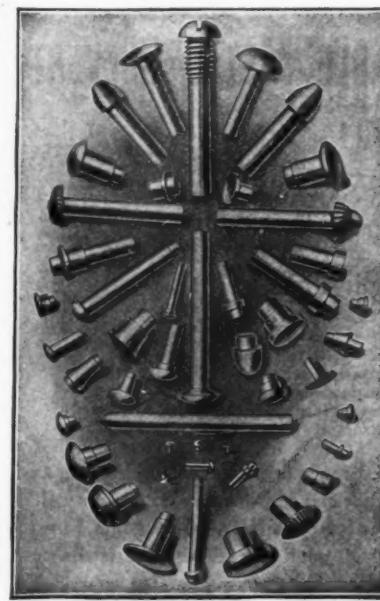
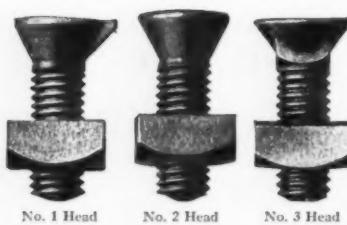
Good steel, made in the Upson plant, is the foundation of quality in Upson nuts and bolts

Cold Punched  
NUTS



The  
Milton Manufacturing  
Company

MILTON, PENNA.



Standard and  
Special Machine  
**SCREWS**

Manufacturers of

Rivets      Studs, Threaded Wires  
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Square Iron Nuts

Special Screws and Rivets made to order. We please those discriminating manufacturers who require something better than is usually supplied.

Get our prices, submit sample and advise quantity desired.

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TORRINGTON, CONN.

**Lebanon Valley Iron & Steel Co.**  
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**BOLTS**

Machine—Lag—Carriage

With either Hot Pressed or Cold Punched Nuts

Track Bolts, Railroad Spikes,  
Hot Pressed Nuts, Rivets, Etc.

Refined Bar Iron



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**Manganese Steel Castings**

EDGAR ALLEN AMERICAN MANGANESE STEEL CO.

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**FOUNDRY FACINGS**      **CRAYONS AND PENCILS**

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Way to Get Out

**CROSS TIES**

AND SAVE THE WASTE OF STUMPPAGE

STANDARD PORTABLE SAW MILLS CO.

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## Do You Use Pulverized Coal?

If so, you can use

## Ruggles-Coles Dryers (INTERNAL FIRED)

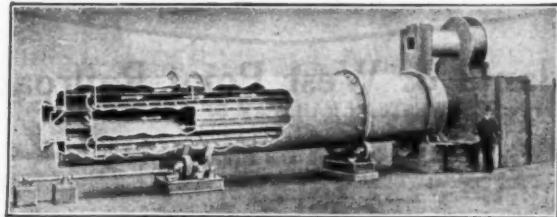
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### Ruggles-Coles Engineering Co.

NEW YORK—Hudson Terminal Building  
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Established  
1834

## Stedman's Disintegrators

For Grinding and Pulverizing  
OIL CAKES, TANKAGE,  
COAL, CLAY, BONES, Etc.

See our New Catalogue No. 12.

STEDMAN'S

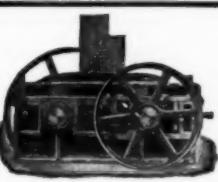
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We make elevating and conveying machinery, drop forged chain, shaking and revolving screens, car hauls, coal and ore conveyors, retarding conveyors, gypsum machinery, paint machinery, mining machinery, mechanical dryers, universal excavators and soft mud brick machinery.

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## Steel Castings

Weighing from 1 lb. to 800 lbs. each

Suitable for Dogs, Clamps, Wheels, Pinions and other castings where strength is required.  
Used almost exclusively for Automobile Work.  
Quick deliveries.  
Your inquiries solicited.

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CRUCIBLE STEEL CASTINGS  
from 1 to 1000 lbs.

"SALAMANDRINE" STEEL POTS  
for Lead, Annealing and Galvanizing

RAIL OR WATER  
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## MALLEABLE CASTINGS

WE POSITIVELY  
GUARANTEE  
QUALITY  
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SEND US YOUR INQUIRIES  
The Columbus Malleable Iron Co., Columbus, Ohio

## Malleable Iron Castings

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Annual Capacity 25,000 Tons.  
Castings of all descriptions furnished.  
Send Blueprints or Samples for Estimates.

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EAST ST. LOUIS, ILL.

## MALLEABLE IRON CASTINGS

High Tensile Strength Exceedingly Tough

We are equipped to make large and small castings.

Prompt Shipment Our Specialty

WRITE US.

GENERAL MALLEABLE COMPANY, Warren, Ohio

## ROTARY DRYERS

Especially suitable for drying all kinds of GRANULAR MATERIAL

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## A BOOK about MACHINERY for GRINDING and SEPARATING FREE

It fully catalogues the Raymond Pulverizing and Air Separating System, yet it is a good deal more than a catalogue, and is full of information valuable to any company which reduces any material to powder. Ask for a copy.

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## PULVERIZING MACHINERY

for all kinds of materials

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WASHERS, Wood or Steel Logs. ORE JIGS for Hard Service. ELEVATORS,  
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McLANAHAN-STONE MACHINE CO. HOLLIDAYSBURG, PA.

Automatic  
Improved  
For All Materials.

## DRYERS

Economical—Efficient  
Great Capacity  
American Process Co.  
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# OPPORTUNITIES IN THE SOUTH

—FOR—

## Manufacturers, Investors, Merchants, Farmers and Homeseekers

In the following pages leading railroads and a number of towns and cities invite your attention to the opportunities possessed by the rapidly developing South for every line of industry, for investments, and as a place for home-making in the city and on the farm.

The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material upbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attention than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.



### Attractive Factory Sites ON THE Illinois Central Railroad

For full particulars address the undersigned

Free books of information on farm lands issued by the  
Illinois Central Railroad

### ABOUT THE SOUTH

MISSISSIPPI—A WONDERFUL AGRICULTURAL STATE  
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MR. FARMER, THE YAZOO-MISSISSIPPI DELTA  
IS CALLING YOU  
THE PHILOSOPHY OF A NORTH MISSISSIPPI  
FARM  
SOUTH MISSISSIPPI, THE SETTLER'S CHANCE

Everyone who would like a Southern home or investment should have a copy of one or all of these books. For free copies address

**J. C. CLAIR**

Industrial and Immigration Commissioner

ILLINOIS CENTRAL RAILROAD COMPANY  
135 East 11th Place, CHICAGO, ILL.

### THE WEST POINT ROUTE

#### Atlanta & West Point Railroad

THE WESTERN RAILWAY OF ALABAMA

Offers excellent locations for  
Truck, Fruit, Stock and General Farming  
Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities  
Write for information.

E. S. CENTER, General Agent, ATLANTA, GA.

To the

### MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama which are traversed by the

### Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

**J. M. MALLORY, Industrial Agent**  
**SAVANNAH, GEORGIA**

# Every Requirement of Modern Industry Can Be Found In The Expansive Territory of the B. & O.

Extending from the Atlantic Seaboard to the Mississippi River and the Great Lakes, the B. & O. covers twelve States and passes through the heart of industrial America.

In seeking, therefore, the best locations from every standpoint for your industrial, commercial or agricultural enterprises,

Consider the great expanse of the B. & O. territory, its vast supply of raw materials, its richness of soil, its remarkable activities, its enormous buying power, and its complete shipping facilities.

Whether you would locate on the Atlantic Seaboard to take advantage of tidewater facilities, or in the coal and natural gas regions of West Virginia, the great iron and steel center around Pittsburgh, or in that great beehive of diversified industry in the Central West, the B. & O. can offer you choice locations.

Whatever product you want to manufacture,

Whatever business you desire to engage in,

Whatever your particular requirements may be,

The B. & O., owing to the wide diversity of its country, can offer you sites that will measure up to your every need.

*Write to our Industrial and Agricultural Department giving an outline of the character of site you are seeking for your manufacturing plant, your commercial enterprise or for farming and fruit growing. These departments will co-operate with you to the fullest extent.*

## Baltimore & Ohio Railroad

J. H. STEWART, Agricultural Agent  
Morgantown, W. Va.

W. W. WOOD, Industrial Agent  
Baltimore, Md.



Residual Kaolin Mine, Dillsboro, N. C.



Cement Plant, Leeds, Ala.

**Factory  
Sites**

**Business  
Locations**

**Southern  
Farms**

**and Investments**

along the

# Southern Railway System

Choice Locations in Eleven States

Information Free

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Western Agent  
919 Chemical Bldg.  
St. Louis, Mo.

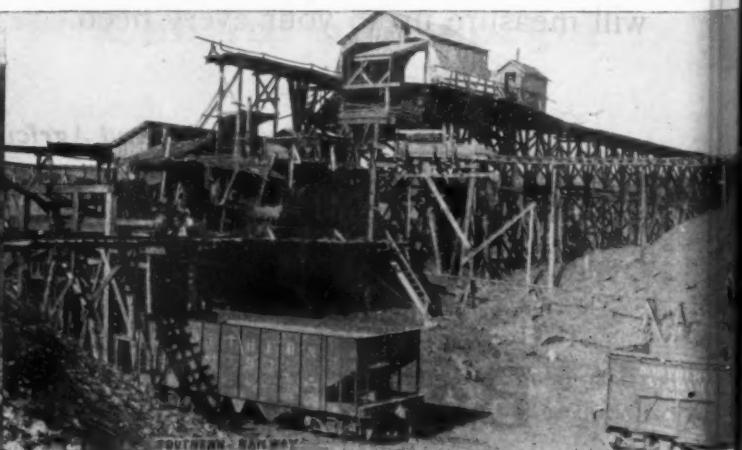
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Brown Iron Ore Washing Plant, Russellville, Ala.

## Where Factories Succeed

Manufacturing in Florida has long ago passed the experimental stage. So much so that during the ten years from 1900 to 1910 the manufacturing business in the State increased 112.7 per cent., while the gain for the entire country was 81.7 per cent.

The concerns engaged in manufacturing in Florida demonstrated the fact that it could be carried on at a profit, and this success attracted others.

One plant, engaged in manufacture of boxes, crates, baskets, and hampers, for packing and shipping fruits and vegetables, proved so profitable that its owners last year built another like it only a few hundred feet away. The same people own a sawmill, which is not by any means old, but the demand for their lumber is so great that they are on the point of tearing it down and replacing it with a mill of four times its capacity, and this will be done within a short time.

They would not have built the duplicate box and basket factory if they had not found manufacturing profitable.

They would not tear down a small mill to make way for a large one if they had not found lumber manufacturing profitable.

Other manufacturers throughout the State are enlarging their plants and increasing their output, because they find their business profitable, the demand for their products increasing.

And yet, with all the increase that has been made, the demand for products that should be manufactured in Florida is far in excess of the supply, and hundreds of thousands of dollars are sent out of the State for their purchase.

Florida, therefore, offers opportunities for profit in manufacturing that should appeal to enterprising men throughout the country who are not satisfied with their present locations.

These opportunities abound along the line of the Florida East Coast Railway in many places and in a variety of lines.

*The Industrial Department of the road will cheerfully furnish information to those who write for it.*

**Florida East Coast Railway**

J. E. INGRAHAM, Vice-President  
ST. AUGUSTINE, FLA.

# The Value of Broad Distribution Facilities

*Consider what the Clinchfield  
can offer you in this respect*

Every manufacturer and business man, and even the farmer and fruit-grower, in these days, in the selection of a location for his undertaking, pays especial attention to shipping facilities, and seeks that point which will enable him to reach the country's largest markets in every direction.

He realizes that if his distribution is confined to one or two large markets, the condition of his business is but a reflection of the condition of these several markets.

But if his location is such that he can reach out into markets in every direction, he is not subject to the fluctuating conditions of one or two of them, as he always has others to which he can divert his products.

As a result, he is enabled to secure the best possible prices for his wares, and at the same time have a broad field for the expansion of his business.

In this connection, consider what the Clinchfield has to offer those who locate along its lines.

Through its connection with the Louisville & Nashville, and the Chesapeake & Ohio, the markets of the great Central West are reached.

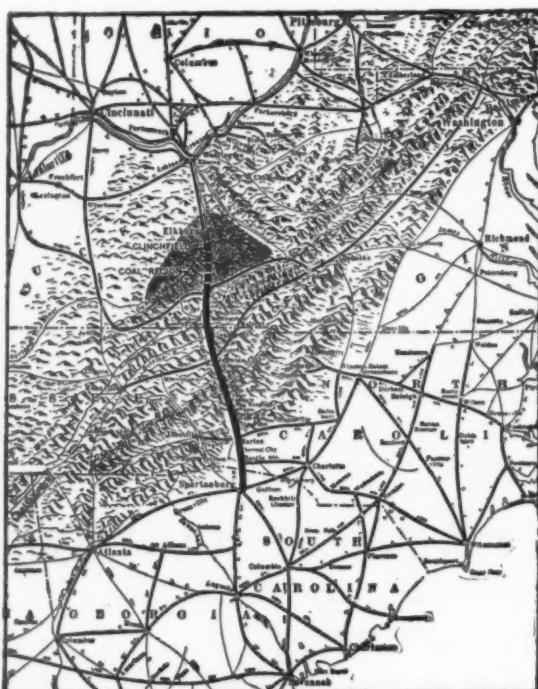
The Clinchfield crosses both the Norfolk & Western and the Southern Railways, which give outlets to the markets of the North and East on the one hand, and the South and Southwest on the other hand.

At its Southern end the Clinchfield connects with the Seaboard Air Line, the Atlantic Coast Line and the Southern Railway, and through them with the other principal railroads of the South, enabling it to thoroughly cover this growing section.

The Clinchfield has also direct connections with the important Southern Seaports, and through them with the leading markets of the world.

Those located along the Clinchfield route who take advantage of the splendid openings available industrially, commercially and agriculturally, have therefore facilities for the broadest possible distribution.

And no section of the country contains a greater wealth of resources, combined with complete facilities for development.



*Write for a copy of "Land of Opportunities."  
which illustrates and describes the Clinchfield  
territory.*

**Carolina,  
Clinchfield & Ohio Rwy.**

**"THE ROAD OF OPPORTUNITY"**

**R. F. BREWER, Industrial Agent**

**Johnson City, Tenn.**

# Attractive Openings in the South

The farmer, the merchant, the manufacturer and the investor can find many profitable lines of endeavor open to effort in the South. No section of the United States offers so varied a line of attractive opportunities as does the Southern States.

The Coastal Plain, termed "The Great Winter Garden of the South," by the Government, and the delightful Piedmont section comprise millions of acres, attractive and capable of very splendid development. Enhancement of values is steady and will make investments now made very profitable.

## Lands

It is an item of much value to consider the present price of Southern lands as compared with other sections. Lands in the South can be purchased at very reasonable prices, and careful observation has determined their value. Intelligent effort will quickly produce these values.

The lands adapted to citrus growing and the earliest vegetables offered by Florida are unequalled. The southern part of the State matures and ships its farm products at a time when little competition is offered. This means splendid returns for "The Winter Garden Farm."

The Coastal Plain of Virginia, the Carolinas and Georgia is termed by the U. S. Government "The Great Winter Garden of the South." The variety of production, the length of the growing season, the ample rainfall, the proximity to good home markets; opportunity, by excellent transportation, to reach all the large centers of population, make it the most attractive now open to the man wanting land on which to grow a profitable variety of crops.

## Dairying and Live Stock

The South is peculiarly adapted to share in the solution of the future beef supply, which the rapidly growing population demands, and the highest authority, the U. S. Department of Agriculture, is quoted on this subject:

"The South is the only section of the United States where cattle can still be raised, fed and sold at a profit at from 5 to 6 cents per pound. The tick has been almost the only drawback to cattle production in the South, but its passing is simply a question of time and industrious perseverance.

"The hog is the beef steer's boon companion. He is increasing in numbers in the South, and Southern farms will in time supply the pork eaten by Southern farmers, and perhaps a good deal for the market as well. The wonderful development of the boys' corn clubs is now being supplemented by the organization of boys' pig clubs. The boys of the South have been shown how to grow corn; they are now being shown how to feed it to the hogs.

"Poultry and poultry products have a profound influence on the meat supply. Almost every section of the country can produce chickens. Every farm could maintain a larger and better flock. The South offers unusual opportunities for the production of poultry on the farm, on account of the early laying season."

Not alone is the South a cattle country because of its long growing season and its succulent natural grasses, but because its great cottonseed product is open to the cattle feeder; and the soil will produce all the legumes in abundance; and the construction of silos solves the cattle feeder's problem for the winter season.

DAIRYING must be profitable. Estimate of the consumption of Western butter by certain Southern States is indicated:

Virginia .....	9,506,583 lbs.
North Carolina .....	12,634,964 lbs.
South Carolina .....	14,247,842 lbs.

All of which can be produced profitably at home. Certainly the market is there; and the consequent enrichment of the soil will steadily increase the farm values.

## Manufacturing

in the South is a proven factor. At the front in the manufacture of cotton goods; its equable climate, ample and satisfactory labor supply; ready reach of markets, and the coming opening of trade in South America through the Panama Canal makes the South of peculiar attraction to many lines of manufacturing.

Its coal, and iron and other ores offer opportunity to the manufacturer of agricultural implements, harvesting machines, sugar cane and power mills, and the long line of manufactured iron articles so largely in demand.

Cement material in the greatest abundance of the very best quality and approximate to ready transportation. The cement industry has grown wonderfully; and there is every opportunity in the South for expansion along this line.

Water-power development is attracting very wide attention, and has reached out until the opportunity is offered to every manufacturing district to secure reasonable priced electric power for the operation of plants.

Timber, varied and splendid, exists in great abundance. The increased production of farm products, demanding crates and packages, makes a market of great value, and the woodworking plant is multiplying. Increased tobacco production demands the best hardwood for the container.

Banking facilities are of the best, and the progressive cities are taking a keen interest in all the developments of areas surrounding them; in manufacturing development; in better farming methods and greater production from the cultivated area. This is a stimulus to all of the factors for further advance.

## HOMESEEKERS' TICKETS TO

## "The Great Winter Garden of the South"

Cheap tickets have been provided for Eastern and Western people to investigate the many Southern opportunities, and if you will write us we will be glad to tell you about these tickets, the best means of reaching our section, and hope that this will have your early consideration.

## Seaboard Air Line Railway

J. A. PRIDE, General Industrial Agent

NORFOLK, VIRGINIA

## CLASSIFIED INDEX OF ADVERTISEMENTS.

- Abrasive Materials.**  
Carborundum Co., Niagara Falls, N. Y.  
Vitrified Wheel Co., Westfield, Mass.
- Accountants.**  
Baltimore Audit Co., Baltimore, Md.  
Beaman, R. J., Cincinnati, Ohio.
- Accumulator. (Hydraulic.)**  
The French Oil Mill Mch'y. Co., Piqua, Ohio.
- Adding Machines.**  
Burroughs Adding Machine Co., Detroit, Mich.
- Agricultural Implements.**  
Myers & Bro., F. E., Ashland, O.
- Air Compressors. (Stationary and Portable.)**  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
American Compressor & Pump Co., Baltimore, Md.  
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Clayton Air Compressor Works, Cambridge, Mass.  
General Electric Co., Schenectady, N. Y.  
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- Aluminum Products. (Bars, Sheets, Tubes.)**  
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Ericc Co., The, Waynesboro, Pa.  
York Mfg. Co., York, Pa.
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- Architects.**  
Dehl, Wm. Newton, Norfolk, Va.  
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Scriine, J. E., Greenville, S. C.
- Architects' Supplies.**  
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- Architectural Iron Work.**  
Holles Iron & Wire Wks., J. E., Detroit, Mich.  
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Seead Architectural Iron Wks., Louisville, Ky.
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Binswanger & Co., Memphis, Tenn.
- Asbestos.**  
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Johns-Manville Co., H. W., New York, N. Y.  
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- Asbestos Products.**  
Asbestos Protected Metal Co., Beaver Falls, Pa.
- Asphalt.**  
Barber Asphalt Paving Co., Philadelphia, Pa.  
Gulf Refining Co., Pittsburgh, Pa.  
U. S. Asphalt Refining Co., New York, N. Y.
- Asphalt Mixers.**  
Eric Machine Shop, Erie, Pa.
- Asphalt Paving Plants.**  
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- Auctioneers.**  
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- Automobiles. (Electric Passenger.)**  
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- Bakelite Dilecta.**  
Continental Fibre Co., Newark, Del.
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Frederick, Elliott & Harrison, Cincinnati, Ohio.  
Dolben Trust Co., Wilmington, Del.  
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Glenn, W. S., Spartanburg, S. C.  
Halsey & Co., N. W., New York, N. Y.  
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- Banks.**  
First National Bank, Baltimore, Md.  
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First National Bank, Richmond, Va.  
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- Bank and Office Railings and Grilles. (Iron)**  
Bolles Iron & Wire Wks., J. E., Detroit, Mich.  
Chesapeake Iron Works, Baltimore, Md.  
Cincinnati Mfg. Co., Cincinnati, O.  
Dow Wire & Iron Works, Louisville, Ky.  
Dufur & Co., Baltimore, Md.  
Dufur, Baggott & Co., Baltimore, Md.  
Meyers Mfg. Co., F. J., Hamilton, O.  
Ohio Elevator & Machine Co., The, Columbus, O.
- Barges.**  
American Bridge Co., of New York, N. Y.
- Bar Iron. (Refined and Galvanized.)**  
Bourne-Fuller Co., The, Cleveland, Ohio.  
Carnegie Steel Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.
- Bars, Wire, Wire Fabric, etc. (For Reinforced Concrete.)**  
American Steel & Wire Co., Chicago, Ill.  
Cincinnati Iron & Steel Co., Cincinnati, O.  
Jill Steel Co., Birmingham, Ala.  
Hoffman & Co., Inc., H. G., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
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- Bearings. (Oils.)**  
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- Bells and Gongs.**  
National Tube Co., Pittsburgh, Pa.
- Belting. (Leather, Canvas, Rubber.)**  
American Supply Co., Providence, R. I.  
Bailey-Lebby Co., Charleston, S. C.  
Baltimore Belting Co., Baltimore, Md.  
Cameron & Barkley Co., Charleston, S. C.  
Chesapeake Belting Co., Baltimore, Md.  
Druid Oak Belting Co., Inc., Baltimore, Md.  
Gandy Belting Co., Baltimore, Md.
- Belts.**  
Goodyear Tire & Rubber Co., Akron, Ohio.  
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Main Belting Co., Phila., Pa.  
Philadelphia Belting Co., Philadelphia, Pa.  
Schlieren Co., Chas. A., New York, N. Y.  
Smith-Courtney Co., Richmond, Va.
- Belting. (Chain.)**  
Bartlett & Snow Co., C. O., Cleveland, O.  
Cal'dwell & Sons Co., H. W., Chicago, Ill.  
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Link-Belt Co., Nicetown, (Philadelphia) Pa.
- Belting. (Cotton.)**  
Scanianavia Belting Co., New York, N. Y.
- Belts Conveyors.**  
Jeffrey Mfg. Co., Columbus, O.  
Scanianavia Belting Co., New York, N. Y.
- Belting Dressing.**  
Dixon Crucible Co., Joseph, Jersey City, N. J.  
Gandy Belting Co., Baltimore, Md.  
Graton & Knight Mfg. Co., Worcester, Mass.  
Philadelphia Belting Co., Philadelphia, Pa.  
Scanianavia Belting Co., New York, N. Y.
- Belts Lacing and Supplies. [See Belting, Leather, Canvas, Rubber.]**
- Bicarbonate Soda. (Sap Stain Lumber Dip.)**  
Church & Dwight Co., New York, N. Y.  
Matheson Alkali Works, Saltville, Va.
- Blackboards. (State.)**  
East Bangor Con. State Co., The, East Bangor, Pa.  
Johnson, E. J., New York, N. Y.
- Blocks. (Paving Creosoted.)**  
American Creosote Works, New Orleans, La.
- Block Fillers**  
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Barrett Mfg. Co., Phila. Pa.  
Standard Oil Co., Newark, N. J.  
U. S. Asphalt Refining Co., New York, N. Y.
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American Blower Co., Detroit, Mich.  
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De Laval Steam Turbine Co., Trenton, N. J.  
General Electric Co., Schenectady, N. Y.  
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Raymond Bros. Insect Pulp Co., Chicago, Ill.  
South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.
- Startute Co., B. F., Hyde Park, Boston, Mass.**
- Boilers.**  
Abendroth & Root Mfg. Co., Newburgh, N. Y.  
Babcock & Wilcox Co., New York, N. Y.  
Cameron & Barkley Co., Charleston, S. C.  
Casey-Hedges Co., Chattanooga, Tenn.  
Chattanooga Boiler & Tank Co., Chattn'ga, Tenn.  
Coatesville Boiler Works, Coatesville, Pa.  
Collins Co., R. D., Newark, Ga.  
Erie City Works, Erie, Pa.  
Gibbs Machinery Co., Indianapolis, S. C.  
Harris Bros. Co., Chicago, Ill.  
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Keeler Co., E., Williamsport, Pa.  
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Mecklenburg Iron Works, Charlotte, N. C.  
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New York Central Iron Works Co., Hagerstown, Md.  
Phoenix Iron Works Co., Mendeville, Pa.  
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Southern Engine & Boiler Works, Jackson, Tenn.  
Valk & Murdoch Iron Works, Charleston, S. C.  
Vogt Machine Co., Henry, Louisville, Ky.  
Walsh & Weidner Boiler Co., Chattanooga, Tenn.  
Williamsport Supply Co., Walter A., St. Louis, Mo.
- Boiler Covering.**  
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
- Boiler Graphite.**  
Dixon Crucible Co., Joseph, Jersey City, N. J.
- Boiler Tubes. [See Tubes, Boiler.]**
- Bolts, Nuts, Rivets, Studs and Washers.**  
Lebanon Valley Iron & Steel Co., Lebanon, Pa.  
Milton Mfg. Co., Milton, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Republic Iron & Steel Co., Youngstown, O.  
Upson Nut Co., The, Cleveland, O.
- Bonds. (Surety, etc.)**  
Fidelity & Deposit Co. of Balt., Baltimore, Md.
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- Brass Goods.**  
Bailey-Lebby Co., Charleston, S. C.  
Buckeye Iron & Brass Works, Dayton, O.  
Lunkenhimer Co., The, Cincinnati, Ohio  
Powell Co., Wm., Cincinnati, O.
- Brass Railing and Grilles.**  
Newman Mfg. Co., Cincinnati, Ohio
- Brewers' Machinery.**  
Vilter Mfg. Co., Milwaukee, Wis.
- Brick. (Acid.)**  
Hood Brick Co., B. Mifflin, Atlanta, Ga.
- Brick. (Building.)**  
Am. Enamelled Brick & Tile Co., New York, N. Y.  
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
- Hood Brick Co., B. Mifflin, Atlanta, Ga.**
- Hydraulix Pressed Brick Co., St. Louis, Mo.**
- Kingsport Brick Corp., Johnson City, Tenn.**
- Scott Brick Co., Alex. A., Knoxville, Tenn.**
- Southern Face Brick Exchange, Birmingham, Ala.**
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- Harrison-Walker Refractories Co., Pittsburgh, Pa.**
- Killian Fireproofing & Brick Works, Killian, S. C.**
- Louisville Fire Brick Works, Highland Park, Ky.**
- Mexico Brick & Clay Co., Mexico, Mo.**
- Pomona Terra-Cotta Co., Pomona, N. O.**
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- Stevens' Sons Co., H., Macon, Ga.**
- Union Mining Co., Mt. Savage, Md.**
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- Brick. (Paving.)**  
Carlyle Paving Brick Co., Portsmouth, O.
- Copeland-Ingle Shale Brick Co., Birmingham, Ala.**
- Dunn Wire-Cut-Lng Brick Co., Conneaut, Ohio.**
- Southern Clay Mfg. Co., Chattanooga, Tenn.**
- Standard Brick Co., Macon, Ga.**
- Withers Edry & Mch Wks., Atlanta, Ga.**
- Brick. (Silica.)**  
Harrison-Walker Refractories Co., Pittsburgh, Pa.
- Brick and Clayworking Machinery and Supplies.**  
Chase Fdry. & Mfg. Co., Columbus, O.  
Fornholz Brick Machinery Co., St. Louis, Mo.  
Freese & Co., E. M., Gallon, O.  
Steels & Sons, J. O., Stateville, N. O.
- Bridges. (Concrete.)**  
Luten, Daniel B., Indianapolis, Ind.  
Requaht Co., O. W., Charlotte, N. C.  
Turner, C. A. P., Minneapolis, Minn.
- Bridges. (Rolling Lift.)**  
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- Bridges. (Steel.)**  
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Champion Bridge Co., Wilmington, Ohio.  
Chicago Bridge & Iron Works, Chicago, Ill.  
East St. Louis Bridge Co., East St. Louis, Ill.  
Oregonia Bridge Co., Lebanon, Ohio.  
Richmond Structural Steel Co., Richmond, Va.  
Scherzer Rolling Lift Bridge Co., Chicago, Ill.  
Vincennes Bridge Co., Vincennes, Ind.  
Virginia Bridge & Iron Co., Roanoke, Va.
- Brimstone.**  
Union Sulphur Co., New York, N. Y.
- Brushes.**  
Felton Brush Co., D. D., The, Atlanta, Ga.
- Buckets. (Bottom-dumping for Concrete, Fertilizer, etc.)**  
Stuebner Iron Works, G. L., Long Island City, N. Y.
- Buckets. (Clean Shell, Orange Peel, etc.)**  
Austin Machinery Co., W. E., Atlanta, Ga.  
Hayward Company, New York, N. Y.  
Williams Company, G. H., Cleveland, Ohio.
- Buckets. (Dredging, Excavating, Sewer, etc.)**  
Hayward Co., New York, N. Y.  
Monighan Mch. Co., Chicago, Ill.  
Williams Co., The G. H., Cleveland, O.
- Buckets. (Grab.)**  
Hunt Co., Inc., C. W., West New Brighton, N. Y.
- Buckets. (Ore Handling.)**  
Caldwell & Son Co., H. W., Chicago, Ill.  
Hayward Co., New York, N. Y.  
Link-Belt Co., Nicetown (Philadelphia), Pa.  
Williams Co., The G. H., Cleveland, O.
- Buhr Stones.**  
Starr Co., B. F., Baltimore, Md.
- Builders and Contractors.**  
Austin Bros., Atlanta, Ga.  
Candwell-Wingate Co., Atlanta, Ga.  
Selden-Breck Construction Co., St. Louis, Mo.  
Stone & Webster Eng. Corp., Boston, Mass.  
Turner, C. A. P., Minneapolis, Minn.  
White Companies, J. G., New York, N. Y.
- Building Stone.**  
Bedford Steam Stone Works, Bedford, Ind.
- Building Supplies.**  
Harris Bros. Co., Chicago, Ill.  
Southern Building Material Co., Norfolk, Va.
- Burners. (Oil.) [See Fuel Oil Equipment.]**
- Bushings. (Oilless, for Loose Pulleys.)**  
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- Cables.**  
American Steel & Wire Co., Chicago, Ill.  
Brodrick & Bascom Co., St. Louis, Mo.  
Roehling's Sons Co., John A., Trenton, N. J.  
Williamsport Wire Rope Co., Williamsport, Pa.
- Cables. (Underground.)**  
American Steel & Wire Co., Chicago, Ill.  
Safety Insulated Wire & Cable Co., New York, N. Y.
- Cables and Wires. (Insulated.)**  
Safety Insulated Wire & Cable Co., New York, N. Y.
- Building Stone.**  
Bedford Steam Stone Works, Bedford, Ind.
- Building Supplies.**  
Harris Bros. Co., Chicago, Ill.  
Southern Building Material Co., Norfolk, Va.
- Burners. (Oil.) [See Fuel Oil Equipment.]**
- Bushings. (Oilless, for Loose Pulleys.)**  
Metaine Co., Long Island City, N. Y.
- Cables.**  
American Steel & Wire Co., Chicago, Ill.  
Brodrick & Bascom Co., St. Louis, Mo.  
Roehling's Sons Co., John A., Trenton, N. J.
- Can and Box Making Machinery. (Tin.)**  
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Curd, Geo., Cincinnati, Ohio  
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Electric Wheel Co., Quincy, Ill.  
Georgia Car & Locomotive Co., Atlanta, Ga.  
Hunt Co., C. W., Inc., West New Brighton, N. Y.  
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Georgia Car & Locomotive Co., Atlanta, Ga.  
Giamorgan Pipe & Foundry Co., Lynchburg, Va.  
Lynchburg Foundry Co., Lynchburg, Va.  
Phoenix Iron Works Co., Mendeville, Pa.  
Poole Engineering & Machine Co., Baltimore, Md.  
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.  
Valk & Murdoch Iron Works, Charleston, S. C.  
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Withers Edry & Mch Wks., Atlanta, Ga.
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Columbus Malleable Iron Co., Columbus, Ohio.  
Fanner Mfg. Co., The, Cleveland, O.  
General Malleable Co., Warren, O.  
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- Castings. (Municipal.)**  
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Kirkpatrick Sand & Cement Co., Birmingham, Ala.  
Kosmos Portland Cement Co., Inc., Louisville, Ky.  
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- Chains (Dredge, Quarry, Steam Shovel.)**  
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Froehling & Robertson, Richmond, Va.  
Hunt & Co., Robt. W., Chicago, Ill.  
Pittsburgh Testing Laboratory, Pittsburgh, Pa.  
Wiley & Co., Baltimore, Md.
- Chloride Accumulator.**  
Electric Storage Battery Co., The, Philadelphia, Pa.
- Chucks.**  
Morse Twist Drill & Mch. Co., New Bedford, Mass.
- Chutes. (Concrete.)**  
Austin Machinery Co., W. E., Atlanta, Ga.
- Cities and Towns. (Commercial and Industrial Opportunities.)**  
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Watchman's Clock & Supply Co., New York, N. Y.
- Clutches. (Friction.)**  
Affiliated Manufacturers Co., Milwaukee, Wis.  
Edgemont Machine Co., The, Dayton, Ohio.  
Medart Patent Pulley Co., St. Louis, Mo.
- Coal.**  
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Clinchfield Fuel Co., Spartanburg, S. C.  
Consolidation Coal Co., Inc., New York, N. Y.  
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala.
- Coal Cutters.**  
Jeffrey Mfg. Co., Columbus, O.
- Coal Handling Machinery.**  
Bartlett & Snow Co., O. C., Cleveland, O.  
Guarantee Construction Co., New York, N. Y.  
Hayward Co., New York, N. Y.  
Hunt Co., C. W., Inc., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Columbus, O.
- Coal Tar and By-Products.**  
Barrett Mfg. Co., Philadelphia, Pa.
- Coal Tipples.**  
American Bridge Co. of New York, N. Y.
- Coke.**  
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala.
- Colleges and Schools.**  
Rensselaer Polytechnic Institute, Troy, N. Y.  
Virginia Polytechnic Institute, Blacksburg, Va.
- Colleges (Agricultural.)**  
Virginia Polytechnic Institute, Blacksburg, Va.
- Colleges. (Technical.)**  
Rensselaer Polytechnic Institute, Troy, N. Y.  
Virginia Polytechnic Institute, Blacksburg, Va.
- Columns. (Porch, Interior, Pergola.)**  
Nickerson Mfg. Co., Knoxville, Tenn.
- Concrete Construction. (Reinforced.)**  
Berry-Fortune Construction Co., Eatonton, Ga.  
Foster-Craighead-Gould Co., Nashville, Tenn.  
Guarantee Construction Co., New York, N. Y.  
Jeffrey Mfg. Co., Columbus, O.  
Requaht Co., O. W., Charlotte, N. C.  
Turner, C. A. P., Minneapolis, Minn.
- Concrete Products.**  
Gray Concrete Co., Thomasville, N. C.
- Concrete Curb Protector. (Steel.)**  
Steel Protected Concrete Co., Philadelphia, Pa.
- Concrete Mixers. [See Mixers. (Concrete.)]**
- Concrete Reinforcing Bars.**  
Bourne-Fuller Co., The, Cleveland, Ohio.  
Columbia Steel Co., Pittsburgh, Pa.  
Gulf Steel Co., Birmingham, Ala.  
Hoffman & Co., B. C., Baltimore, Md.  
Jones & Laughlin Steel Co., Pittsburgh, Pa.  
Lackawanna Steel Co., Lackawanna, N. Y.  
Laclede Steel Co., St. Louis, Mo.  
Republic Iron & Steel Co., Youngstown, O.
- Concrete Reinforcing Bar Couplings.**  
Marion Malleable Iron Works, Marion, Ind.
- Concrete Reinforcing Wire and Wire Fabric.**  
Aronstam Co., L., Columbia, S. C.  
Roehling's Sons Co., John A., Trenton, N. J.
- Condensers.**  
Alberter Pump & Condenser Co., New York, N. Y.  
Alix-Chalmers Mfg. Co., Milwaukee, Wis.  
Cress-Morrie Co., Philadelphia, Pa.  
Dean Bros., Steel Pump Wks., Indianapolis, Ind.  
Westinghouse Machine Co., Pittsburgh, Pa.  
York Mfg. Co., York, Pa.
- Conductor Pipe.**  
Edwards Mfg. Co., Cincinnati, O.  
Hussey & Co., C. G., Pittsburgh, Pa.  
Milwaukee Artistic Metal Ceiling Co., Milwaukee, Wis.  
Milwaukee Corrugating Co., Milwaukee, Wis.
- Contractors. (Concrete.)**  
Berry-Fortune Construction Co., Eatonton, Ga.

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**Contractors.** (Hydro-Electric Developments.)  
Bouquart Co., C. W., Charlotte, N. C.

**Contractors.** (Water Supply.)  
Layne & Bowler Co., Houston, Tex.

**Contractor's Machinery and Supplies.** [See also Hoisting Machinery.]

American Clay Machinery Co., The, Bucyrus, Ohio.  
American Hoist & Derrick Co., St. Paul, Minn.  
American Locomotive Co., New York, N. Y.  
Austin & Scherer Co., W. E., Atlanta, Ga.  
Austin Mfg. Co., Cincinnati, O.  
Byers Mach. Co., The John F., Ravenna, O.  
Contractors Mch'y. & Supply Co., Pittsburgh, Pa.  
Contractors' Service Co., New York, N. Y.  
Curd, Geo. B., Cincinnati, O.  
Farquhar Mfg. Co., Ltd., A. B., York, Pa.  
Flory Mfg. Co., S., Bangor, Pa.  
Hoff Bros. Steel & Rail Co., Pittsburgh, Pa.  
Marine Metal Supply Co., New York, N. Y.  
Milburn Co., Alex. N., Baltimore, Md.  
Montgomery Mch'y. Co., Chicago, Ill.  
National Hoisting Engine Co., Harrison, N. J.  
Niles Mfg. Co., W. E., Knoxville, Tenn.  
Pitts & Contractors' Sales Co., New York, N. Y.  
Sherwood, E. C., New York, N. Y.  
Southern Mch'y. & Equipment Co., Lynchburg, Va.  
Sterling Machinery Co., New York, N. Y.

**Conveying and Elevating Machinery.**

Austin Machinery Co., W. E., Atlanta, Ga.  
Bartlett & Snow Co., O. O., Cleveland, O.  
Caldwell & Son Co., H. W., Chicago, Ill.  
Flory Mfg. Co., S., Bangor, Pa.  
Guarantee Construction Co., New York, N. Y.  
Hoff Co., C. W., Inc., West New Brighton, N. Y.  
Jeffrey Mfg. Co., Cincinnati, O.  
Lidgerwood Mfg. Co., New York, N. Y.  
Link-Belt Co., Nicetown, (Philadelphia) Pa.  
Matthews Gravity Carrier Co., Elwood City, Pa.  
McLanahan-Stone Mch'y. Co., Hollidaysburg, Pa.

**Cooperage Stock and Box Shook Machinery.**

Gorlaich Co., Peter, Cleveland, O.  
**Coppersmiths.**

Hoffman-Ahlers Co., Cincinnati, Ohio.  
McMillian Bros., Jacksonville, Fla.

**Cordage.**

American Mfg. Co., Brooklyn, N. Y.  
Broderick & Bascom Rope Co., St. Louis, Mo.  
Columbian Rope Co., Auburn, N. Y.  
Plymouth Cordage Co., North Plymouth, Mass.  
St. Louis Cordage Mill, St. Louis, Mo.  
Watertown Co., New York, N. Y.

**Core Ovens.**

Oven Equipment & Mfg. Co., The, New Haven, Conn.  
**Corner Bead. (Metal.)**

Penn Metal Co., Boston, Mass.

**Corn-Mill Machinery.**

Nordyke & Marmon Co., Indianapolis Ind.  
Raymond Bros. Impact Pulv. Co., Chicago, Ill.  
Star Co., B. F., Baltimore, Md.  
Wolf Co., Chambersburg, Pa.

**Cotton Oil and Products.**

American Cotton Oil Co., New York, N. Y.

**Cotton Yarns. (Commission Merchants.)**

Pulson, Linkroum & Co., New York, N. Y.

**Cotton-Gin Machinery.**

Carver Cotton Gin Co., East Bridgewater, Mass.  
Continental Gin Co., Birmingham, Ala.  
Gibbs Machinery Co., Inc., Columbia, S. C.  
Murray Co., The, Atlanta, Ga.

**Cotton-Mill Machinery.**

Draper Co., Hopedale, Mass.  
Mason Machine Works, Taunton, Mass.  
Saco-Lowell Shop, Boston, Mass.  
Whitinsville Spinn'g Ring Co., Whitinsville, Mass.

**Cotton-Mill Supplies.**

American Supply Co., Providence, R. I.  
Whitinsville Spinn'g Ring Co., Whitinsville, Mass.

**Cottonseed-Oil Machinery.**

Buckeye Iron & Brass Works, Dayton, O.  
Burress Engineering Co., Atlanta, Ga.  
Cardwell Machine Co., Richmond, Va.  
Carver Cotton Gin Co., East Bridgewater, Mass.  
Continental Gin Co., Birmingham, Ala.  
French Oil Mill Machinery Co., Piqua, O.  
Murray Co., The, Atlanta, Ga.

Raymond Bros. Impact Pulv. Co., Chicago, Ill.

**Counting and Weighing Machines. (For Industrial Plants.)**

National Scale Co., Chicopee Falls, Mass.

**Couplings.**

American Spiral Pipe Works, Chicago, Ill.  
Golden's Foundry & Machine Co., Columbus, Ga.  
Wood's Sons Co., T. B., Chambersburg, Pa.

**Couplings. (Car.)**

National Tube Co., Pittsburgh, Pa.

Weimer Chain & Iron Co., Lebanon, Pa.

**Couplings. (Hose, Air, Gas, Steam and Water.)**

National Tube Co., Pittsburgh, Pa.

**Couplings. (For Reinforcing Bars.)**

Marion Malleable Iron Works, Marion, Ind.

**Coverings. (Pipe, Boiler, etc.)**

Johs-Manville Co., H. W., New York, N. Y.  
Southern Asbestos Mfg. Co., Inc., Richmond, Va.

**Cranes. (Locomotive.)**

American Hoist & Derrick Co., St. Paul, Minn.  
Ohio Locomotive Crane Co., Bucyrus, O.

**Cranes. (Traveling, Hand, Power, Hydraulic.)**

Lane Mfg. Co., Montpelier, Vt.

Speidel, J. G., Reading, Pa.

**Crayons.**

Georgia Talc Co., Asheville, N. C.  
Lowell Crayon Co., Lowell, Mass.

**Crooseting Equipment.**

Casey-Hedges Co., Chattanooga, Tenn.  
Brutgers-Wells Co., Warren, Pa.  
Walsh & Weider Body Co., Chattanooga, Tenn.

**Crooseting Works.**

American Crooseting Works, New Orleans, La.  
Intern'l Crooseting & Cons. Co., Galveston, Tex.  
National Lumber & Crooseting Co., Texarkana, Ark.  
Southern Crooseting Co., Ltd., Slidell, La.  
Southern Wood Preserving Co., Atlanta, Ga.

**Crossarms and Pins.**

Western Electric Co., New York, N. Y.  
**Crossarms. (Creosoted.)**

American Croosets Wks., New Orleans, La.  
Intern'l Crooseting & Cons. Co., Galveston, Tex.  
National Lumber & Crooseting Co., Texarkana, Ark.  
Southern Crooseting Co., Ltd., Slidell, La.  
Southern Wood Preserving Co., Atlanta, Ga.

**Crossings. [See Railroad Frogs and Switches.]**

**Crustic Machine.**

Standard Portable Saw Mill Co., New Orleans, La.

**Crossties. (Creosoted.)**

American Croosete Works, New Orleans, La.

Intern'l Crooseting & Cons. Co., Galveston, Tex.

National Lumber & Croos. Co., Texarkana, Ark.

Southern Crooseting Co., Ltd., Slidell, La.

Southern Wood Preserving Co., Atlanta, Ga.

**Crossties (Steel.)**

Carnegie Steel Co., Pittsburgh, Pa.

**Crushed Stone.**

American Ballast Co., Knoxville, Tenn.

Bailey Quarry Co., Asheville, N. C.

Chickamauga Quarry & Construction Co., Chattanooga, Tenn.

Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Weston Brook Quarry Co., Columbia, S. C.

**Crushers. (Corn and Cob.)**

Gruendler Pat. Crusher & Pulv. Co., St. Louis, Mo.

Jeffrey Mfg. Co., Columbus, O.

Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Universal Road Mch'y. Co., Kingston, N. Y.

Western Wheelbar Scraper Co., Aurora, Ill.

Wheeling Mold & Fdry. Co., Wheeling, W. Va.

**Crushing and Pulverizing Machinery.**

Arling Engineering Co., J. R., New York, N. Y.

Austin Machinery Co., W. E., Atlanta, Ga.

Austin Mfg. Co., Chicago, Ill.

Buchanan Co., Inc., C. G., New York, N. Y.

Power & Mining Machinery Co., Cudahy, Wis.

Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Universal Road Mch'y. Co., Kingston, N. Y.

Western Wheelbar Scraper Co., Aurora, Ill.

Wheeling Mold & Fdry. Co., Wheeling, W. Va.

**Culvert Pipe. (Cast Iron.)**

American Cast Iron Pipe Co., Birmingham, Ala.

Ala. Clow & Sons, James B., Chicago, Ill.

Donaldson Pipe Co., Emaus, Pa.

General Pipe & Foundry Co., Lynchburg, Va.

Lynchburg Foundry Co., Lynchburg, Va.

Massillon Iron & Steel Co., Massillon, Ohio.

Standard Cast Iron Pipe & Foundry Co., Bristol, Pa.

Wood & Co., R. D., Philadelphia, Pa.

**Culverts. (Corrugated Metal.)**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Armclo Culvert Publicity Bureau, Cincinnati, O.

Atlas Metal Works, Dallas, Tex.

Birmingham Metal Products Co., Birmingham, Ala.

Canton Culvert Co., The, Canton, O.

Galco Culvert & Metal Co., Atlanta, Ga.

Gallois Iron Works & Mfg. Co., The, Galion, Ohio.

Harrs Bros. Co., Newark, N. J.

Lone Star Culvert Co., Houston, Tex.

National Corrugated Culvert Mfg. Co., Warren, Pa.

New Orleans Roofing & Metal Wks., New Orleans, La.

Salisbury Metal Culvert Co., Inc., Salisbury, N. C.

Tennessee Metal Culvert Co., Nashville, Tenn.

Virginia Metal & Culvert Co., Inc., Roanoke, Va.

**Culverts. (Vitrified Pipe.)**

Bibb Sewer Pipe Co., Macon, Ga.

Southern Sewer Pipe Co., Birmingham, Ala.

Stevens Sons Co., H., Macon, Ga.

**Cupola Furnaces.**

Faxon Co., J. W., Philadelphia, Pa.

**Curb Protector. (Steel.)**

Steel Protected Concrete Co., Philadelphia, Pa.

**Cuts. (Half-tone, Line, etc.)**

Baltimore-Md. Engraving Co., Baltimore, Md.

**Cutter Heads. (Woodworking.)**

Shimer & Sons, Samuel J., Milton, Pa.

**Cutter Grinders.**

Vitrified Wheel Co., Westfield, Mass.

**Dams. (Reinforced Concrete.)**

Berry-Fortune Construction Co., Eatonton, Ga.

**Derricks and Derrick Fittings.**

American Hoist & Derrick Co., St. Paul, Minn.

Byers Mach. Co., The John F., Ravenna, O.

Hayward Co., The, New York, N. Y.

Monghan Machine Co., Chicago, Ill.

Sagamore Derrick Co., Chicago, Ill.

**Designers and Illustrators. (Printed Matter.)**

Baltimore Md. Engraving Co., Baltimore, Md.

**Distilling Apparatus.**

Weimer-Ahlers Co., Cincinnati, Ohio.

**Ditching Machinery.**

American Hoist & Derrick Co., St. Paul, Minn.

American Locomotive Co., New York, N. Y.

Gardner Steam Shovel Co., Marion, O.

Gade Excavating Co., The, Iowa Falls, Iowa.

Hirsch Co., The, New York, N. Y.

Marion-Osgood Co., Marion, O.

Marion Steam Shovel Co., Marion, O.

Monghan Machine Co., Chicago, Ill.

Williams Co., The, G. H., Cleveland, O.

**Doors. (Steel Rolling.)**

Kinnear Mfg. Co., Columbus, O.

**Doors. (Tin Clad.)**

Victor Mfg. Co., Newburyport, Mass.

**Doors, Sash and Blinds.**

Columbus Iron Works, Columbus, Ga.

**Draftsmen's Supplies.**

Weber & Co., F., Philadelphia, Pa.

**Dredge Chains.**

Norbon Engineering Co., Philadelphia, Pa.

**Dredges. (See Excavating Machinery.)**

Drills. (Electric.)

Fort Wayne Electric Works, Fort Wayne, Ind.

**Drills. (Pneumatic.)** [See also Drills Rock and Mining.]

Drills. (Prospecting.)

Fort Wayne Electric Works, Madison, Wis.

Keystone Steam Well Mach. Co., Beaver Falls, Pa.

**Drills. (Rock and Mining.)**

Fort Wayne Electric Works, Madison, Wis.

Independent Pneumatic Tool Co., Chicago, Ill.

Jeffrey Mfg. Co., Columbus, O.

Wickes Bros., Jersey City, N. J.

**Drills. (Twist.)**

McKenna Bros. Brass Co., Pittsburgh, Pa.

Morse Twist Drill & Mch. Co., New Bedford, Mass.

**Drive Well Points and Well Supplies.**

National Tube Co., Pittsburgh, Pa.

**Drop Forgings and Well Supplies.**

National Tube Co., Pittsburgh, Pa.

**Drop Forgings.**

American Spiral Pipe Works, Chicago, Ill.

Day & Zimmerman, Philadelphia, Pa.

Ferree Co., The H. G., Memphis, Tenn.

Houston-Kingsley Co., Memphis, Tenn.

Macry, John Wharton, Houston, Tex.

**Drop Forging Machinery.**

Eiss Co. E. W., Brooklyn, N. Y.

**Dry Docks. (Builders of)**

American Bridge Co., New York, N. Y.

**Dry Kilns.**

American Process Co., New York, N. Y.

Bailey-Levy Co., The, Charleston, S. C.

Buffalo Forge Co., Buffalo, N. Y.

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**Engineers.**

**MECHANICAL.**  
 Arnold Co., The, Chicago, Ill.  
 Grose, Irvin D., Chicago, Ill.  
 E. H. Hubert S., Inc., New York.  
 Lide, Marion, Birmingham, Ala.  
 Steinmetz, C. M., Washington, D. C.  
 Stevens, Harry, Washington, D. C.  
 Tucker & Laxton, Charlotte, N. C.

**MINING.**

Brown & Clarkson, Washington, D. C.  
 Grimesley, G. P., Martinsburg, W. Va.  
 Haney, Marshall, Bridgewater, Va.  
 Jones, E. M., Chattanooga, Tenn.  
 Maynard-Carter, Chattanooga, Tenn.

**MUNICIPAL.**

Anderson & Christie, Charlotte, N. C.  
 Blair & Drane, Charlotte, N. C.  
 Brown & Clarkson, Washington, D. C.  
 Crosby, Walter W., Baltimore, Md.  
 Cory-Harrison & Co., San Antonio, Texas.  
 Dabney Engineering Co., Memphis, Tenn.  
 Elrod, Henry E., Dallas, Texas.  
 Firth, Joseph, Charlotte, N. C.  
 Freeman Jr., Arthur C., Norfolk, Va.  
 Graver Engineering Co., Inc., New York, N. Y.  
 E. W. Morris, Pittsburgh, Pa.  
 McCrady Bros. & Cheves, Inc., Charleston, S. C.  
 McCrady, J. B., Atlanta, Ga.  
 Siam Engineering Co., Columbia, S. C.  
 Walker Engineering Corp., Tampa, Fla.  
 White, Gilbert C., Charlotte, N. C.

**PAVING AND ROAD.**

Anderson & Christie, Charlotte, N. C.  
 Blair & Drane, Charlotte, N. C.  
 Bryant, Glaucon A., Wilson, N. C.  
 Crosby, Walter W., Baltimore, Md.  
 Elrod, Henry E., Dallas, Texas.  
 Firth, Joseph, Charlotte, N. C.  
 Fuller-Coult Co., St. Louis, Mo.  
 Institute of Industrial Research, Washington, D. C.  
 McCrady Bros. & Cheves, Inc., Charleston, S. C.  
 Shand Engineering Co., Columbia, S. C.  
 White, Gilbert C., Charlotte, N. C.

**PUBLIC SERVICE PROPERTIES**

Day & Zimmerman, Philadelphia, Pa.  
 Ferree Co., The, H. G., Memphis, Tenn.  
 Ford, Bacon & Davis, New York, N. Y.  
 Gilman, Harry L., Boston, Mass.  
 Graves Engineering Co., Inc., New York, N. Y.  
 Maxcy, John Wharton, Houston, Tex.  
 Scofield Engineering Co., Philadelphia, Pa.  
 Stone & Webster Engt. Corp., Boston, Mass.  
 White Companies, J. G., New York, N. Y.

**REINFORCED CONCRETE.** (Buildings, Buildings, etc.)  
 Caldwell-Wingate Co., Atlanta, Ga.  
 Cummings, F. N. (Taylor), Claremont, Va.  
 Foster-Creighton-Gould Co., Nashville, Tenn.  
 Guarantees Construction Co., New York, N. Y.  
 Luten, Daniel B., Indianapolis, Ind.  
 Potter, Alexander, New York, N. Y.  
 Requaard Co., Co. Wm. H., New York, N. C.  
 Savannah Eng. & Construction Co., Savannah, Ga.  
 Spiker, William C., Atlanta, Ga.  
 Steinmetz, C. M., Washington, D. C.  
 Tucker & Laxton, Charlotte, N. C.  
 White Companies, J. G., New York, N. Y.

**RIVER AND HARBOR.**

Gilman, Harry L., Boston, Mass.  
 Sealage and Water-Works,  
 Anderson & Christie, Charlotte, N. C.  
 Bayne, John R., Birmingham, Ala.  
 Blair & Drane, Charlotte, N. C.  
 Brown & Clarkson, Washington, D. C.  
 Bryant, Glaucon A., Wilson, N. C.  
 Cory-Harrison & Co., San Antonio, Texas.  
 Dabney Engineering Co., Memphis, Tenn.  
 Firth, Joseph, Charlotte, N. C.

**RIDGE & WATER-WORKS.**

Ford, Bacon & Davis, New York, N. Y.  
 Freeman Jr., Arthur C., Norfolk, Va.  
 Graves Engineering Co., Inc., New York, N. Y.  
 Hill, Jr., Nicholas S., New York, N. Y.  
 Huston-Kingsley Co., New York, N. Y.  
 Kennesaw Morris, Pittsburgh, Pa.  
 Marcy, John Wharton, Houston, Tex.  
 Mayor, J. H., Birmingham, Ala.  
 Miller, Hiram Allen, Boston, Mass.  
 Myers, E. W., Greensboro, N. C.  
 Pew, Arthur, Atlanta, Ga.

Potter, Alexander, New York, N. Y.  
 Quick, Alfred M., Baltimore, Md.  
 Stevens, Harry, Washington, D. C.  
 Walker Engineering Corp., Tampa, Fla.  
 Washburn Co., A. H., Charlotte, N. C.  
 White Companies, J. G., New York, N. Y.  
 White, Gilbert C., Charlotte, N. C.

Wright Engineering Co., San Antonio, Tex.

**STEEL WORK AND ROLLING MILLS.**

Smythe Co., The, S. R., Pittsburgh, Pa.  
 STRUCTURAL STEEL.  
 Foster-Creighton-Gould Co., Nashville, Tenn.  
 Freeman, Jr., Arthur C., Norfolk, Va.  
 Shearer, C. E., Memphis, Tenn.  
 Solomon-Norcross Co., Atlanta, Ga.  
 Spiker, William C., Atlanta, Ga.

**THEATRE CONSTRUCTION.**

Gatlin, W. R., Hopkinsville, Ky.  
 Engines.

**COMPRESSED AIR.**  
 Dake Engine Co., Grand Haven, Mich.  
 GAS AND GASOLINE.

Affiliated Manufacturers Co., Milwaukee, Wis.  
 Allis-Chalmers Manufacturing Co., Milwaukee, Wis.  
 Cooper Co., E. G., Mt. Vernon, Ohio.  
 Ohio Gas Machinery Co., Inc., Columbus, S. C.  
 Heer Engine Co., Portsmouth, O.  
 Mietz, A., New York, N. Y.  
 Modern Equipment Co., Savannah, Ga.  
 Otto Gas Engine Works, Philadelphia, Pa.  
 Southern Engine & Boiler Works, Jackson, Tenn.  
 Struthers-Wells Co., Warren, Pa.  
 Van Duzen, Royce & Co., Columbus, O.  
 Westinghouse Machine Co., The, Pittsburgh, Pa.

**OIL.**  
 Bolinders Co., The, New York, N. Y.  
 Fairbanks-Morse & Co., Atlanta, Ga.  
 Heer Engine Co., Portsmouth, O.  
 Metz, A., New York, N. Y.  
 New Steam Pump Works, The, New York, N. Y.

**STEAM.**  
 Allis-Chalmers Manufacturing Co., Milwaukee, Wis.  
 American Hoist & Derrick Co., St. Paul, Minn.  
 Ball Engine Co., Erie, Pa.  
 Buffalo Forge Co., Buffalo, N. Y.  
 Dart Mfg. Co., The, Zanesville, O.  
 Griscom-Russell Co., New York, N. Y.  
 Harris Bros. Co., Chicago, Ill.  
 Houston-Stanwood & Gamble, Co., Cincinnati, O.  
 Leffel & Co., James, Springfield, O.  
 Lombard Iron Works, Augusta, Ga.  
 Mecklenburg Iron Works, Charlotte, N. C.  
 Murray Iron Works Co., Burlington, Ia.  
 National Carbon Works Co., Madison, Pa.  
 Price Machinery Co., S. M., Macon, Ga.  
 Schofield Iron Works, Macon, Ga.  
 Sturtevant Co., B. F., Hyde Park, Boston, Mass.  
 Vilter Mfg. Co., Milwaukee, Wis.  
 Westinghouse Machine Co., Pittsburgh, Pa.

**Envelopes.**  
 Young & Selden Co., Baltimore, Md.

**Excavating Machinery.**

American Clay Machinery Co., The, Bucyrus, Ohi.  
 American Locomotive Co., New York, N. Y.  
 Byers Mach. Co., The John F., Ravenna, O.  
 Fairbanks Steam Shovel Co., Marion, O.  
 Gade Excavating Co., The Iowa Falls, Iowa.  
 Hayward Co., New York, N. Y.  
 Jeffrey Mfg. Co., Columbus, O.  
 Lidgerwood Mfg. Co., New York, N. Y.  
 Marion-Osgood Co., Marion, O.  
 Monighan Machine Co., Chicago, Ill.  
 Morris Machine Works, Baldwinsville, N. Y.  
 National Hoisting Engine Co., Harrison, N. J.  
 Norbom Engineering Co., Philadelphia, Pa.  
 Williams Co., The G. H., Cleveland, O.

**Excavators. (Trench.)**

Austin Machinery Co., W. E., Atlanta, Ga.  
 Fairbanks Steam Shovel Co., Marion, O.  
 Gade Excavating Co., The Iowa Falls, Iowa.  
 Hayward Co., The, New York, N. Y.  
 Monighan Machine Co., Chicago, Ill.

**Excisor Machinery.**

Kline, Lewis T., Alpena, Mich.

**Exhaust Heads.**

Abendroth & Root Mfg. Co., Newburgh, N. Y.  
 American Spiral Pipe Works, Chicago, Ill.

**Exhibits. (Machinery Builders' Equipment and Supplies.)**

Builders' Exchange, Baltimore, Md.

**Expansion Joints.**

Badger & Sons Co., E. B., Boston, Mass.

**Expanded Metal. [See Lath.]**
**Explosives.**

Atlas Powder Co., Wilmington, Del.  
 Du Pont de Nemours Powder Co., E. I., Wilmington, Del.  
 Jefferson Powder Co., Birmingham, Ala.  
 Keystone Nat'l. Powder Co., Emporia, Pa.

**Factory Sites. (Town and Railroad.)**

[See Industrial, Agricultural and Commercial Opportunities.]

**Fans. (Electric.)**

General Electric Co., Schenectady, N. Y.  
 Robbins & Myers Co., Springfield, O.

**Fans. (Ventilating.)**

[See Blowers, Exhaust Fans.]

**Fastener Driving Machine.**

(Corrugated Joint.)  
 Saranac Machine Co., Benton Harbor, Mich.

**Feed-Water Heaters and Purifiers.**

American Water Softener Co., Philadelphia, Pa.  
 Blake & Knowles Steam Pump Works, East Cambridge, Mass.  
 Erie City Iron Works, Erie, Pa.  
 Griscom-Russell Co., New York, N. Y.  
 Murray Iron Works Co., Burlington, Ia.  
 National Pipe Bending Co., New Haven, Conn.  
 Scaife & Sons Co., Wm. B., Pittsburgh, Pa.  
 Stewart Heater Co., Buffalo, N. Y.

**Feed-Water Heater and Purifier and Oil Separator Combined.**

Blake & Knowles Steam Pump Works, East Cambridge, Mass.  
 Stewart Heater Co., Buffalo, N. Y.

**Felt. (Building, Sheathing.)**

Barrett Mfg. Co., Philadelphia, Pa.

**Fencing, Entrance Gates. (Iron, Steel, Wire.)**

Bolles Iron & Wire Wks., J. E., Detroit, Mich.  
 Dow Wire & Iron Works, Louisville, Ky.  
 Dufur & Co., Baltimore, Md.  
 Hood Brick Co., B. Mifflin, Atlanta, Ga.

**Fertilizer Machy.**

[See also Phosphate Machy.]  
 Stedman's Foundry & Machine Works, Aurora, Ind.  
 Vail & Murdoch Iron Works, Charleston, S. C.

**Fibre. (Vulcanized.)**

Continental Fibre Co., Newark, Del.

**Files.**

Barnett Co., G. & H., Philadelphia, Pa.  
 Nicholson File Co., Providence, R. I.

**Filters. (Water, for Domestic and Industrial Purposes.)**

American Water Softener Co., Philadelphia, Pa.  
 International Filter Co., Chicago, Ill.  
 Lynn-Superior Co., The, Cincinnati, O.  
 New York Con. Jewell Fil. Co., New York, N. Y.

**Fire Clay.**

[See Brick, Fire.]

**Fire Door Fixtures.**

Richmond Safety Gate Co., Richmond, Ind.  
 Victor Mfg. Co., Newburyport, Mass.

**Fire Extinguishers.**

Badger & Sons Co., E. B., Boston, Mass.

**Fire Escapes.**

Bolles Iron & Wire Works, J. E., Detroit, Mich.  
 Chesapeake Iron Works, Baltimore, Md.

**Fire Places. (Brick and Tile.)**

Hood Brick Co., B. Mifflin, Atlanta, Ga.

**Fire Sprinkling Systems**

Globe Automatic Sprinkler Co., Cincinnati, O.

**Fireproof Building Construction.**

[See Concrete Construction.]

**Fireproof Building Material.**

Bannon Pipe Co., P., Louisville, Ky.

**Fireproof Doors and Shutters.**

Kinney Mfg. Co., Columbus, O.

**Fireproofing. (Brick and Tile.)**

Hood Brick Co., B. Mifflin, Atlanta, Ga.

**Fixtures. (Electric Lighting.)**

Hill Co., Walter E., Baltimore, Md.

**Flanges. (Iron and Steel.)**

American Cast Iron Pipe Co., Birmingham, Ala.

**Gravel.**

Caldwell & Sons Co., H. W., Chicago, Ill.

**Grates and Grate Bars.**

Jeffrey Mfg. Co., Columbus, O.

**Grinding Wheels.**

Norton Wheel Co., Old Dominion Land Co.

**Gravel. (Roofing and Road.)**

American Ballast Co., Knoxville, Tenn.

**Gravity Spiral Chutes.**

Mathews Gravity Carrier Co., Ellwood City, Pa.

**Grease.**

Albany Lubricating Co., New York, N. Y.

**Grease Cups.**

Albany Lubricating Co., New York, N. Y.

**Greases and Lubricating Compounds.**

Albany Lubricating Co., New York, N. Y.

**Flooring. (Cresosoted Block.)**

Original Cresosoted Co., Indianapolis, Ind.

**Flooring. (Hardwood, Maple, Oak.)**

Nashville Hardwood Flooring Co., Nashville, Tenn.

**Flexible Joints.**

Moran Flex. Steam Joint Co., Inc., Louisville, Ky.

**Floor Tile.**

Northcoast Mantel Co., W. J., Memphis, Tenn.

**Flooring. (Oiled.)**

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

**Flexible Joints.**

Whiting, William S., Asheville, N. C.

**Grinders. (Gypsum, Limestone, etc.)**

Stedman's Foundry & Machine Wks., Aurora, Ind.

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Southern Sewer Pipe Co., Birmingham, Ala.

**Forges.**

Buffalo Forge Co., Buffalo, N. Y.

**Forgings.**

Welmer Chain & Iron Co., Lebanon, Pa.

**Foundations. (Waterproof.)**

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**Foundry Equipment and Supplies.**

Newport Sand Bank Co., Inc., Newport, Ky.

Paxson Co., J. W., Philadelphia, Pa.

**Foundry Facings. (Talc and Soapstone.)**

Gorgia Talc Co., Asheville, N. C.

**Foundry and Machine Shops.**

Earle Gear & Machine Co., Philadelphia, Pa.

Glendale Pipe & Foundry Co., Lynchburg, Va.

Golden Foundry & Machine Wks., Columbus, Ga.

Lombard Iron Works, Augusta, Ga.

Fooler Engg. & Mach. Co., Baltimore, Md.

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Valk & Murdoch Iron Works, Charleston, S. C.

**Frogs. [See Railroad Frogs and Switches.]**
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Green Fuel Economizer Co., Matteawan, N. Y.

Sturtevant Co., B. F., Hyde Park, Boston, Mass.

**Fuel Oil.**

Gulf Refining Co., Pittsburgh, Pa.

U. S. Asphalt Refining Co., New York, N. Y.

**Furnaces. (For Industrial Purposes.)**

Smyth Co., The S. R., Pittsburgh, Pa.

**Fuses. (Electrical.)**

Economy Fuse & Mfg. Co., Chicago, Ill.

**Fuse Shells. (Renewable.)**

Economy Fuse & Mfg. Co., Chicago, Ill.

**Fuses. (Bases and Fittings.)**

Johns-Manville Co., H. W., New York, N. Y.

**Galvanized Steel and Iron.**

American Galvanized Steel Wks., Pittsburgh, Pa.

McBain Iron Works, Steubenville, O.

Portsmouth Steel Co., Portsmouth, O.

Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Youngstown Sheet & Tube Co., Youngstown O.

**Garage and House. (Portable.)**

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**Insulated Wires and Cables.**

American Steel & Wire Co., Chicago, Ill.  
Safety Insulated Wire & Cable Co., New York, N. Y.

**Insulating Materials.**

Continental Fibre Co., Newark, Del.  
General Electric Co., Schenectady, N. Y.  
John-Manville Co., H. W., New York, N. Y.

**Insulating. (Tapes.)**

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**Insulating. (Varnishes and Compounds.)**

Standard Paint Co., New York, N. Y.

**Iron.**

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Lunken Valley Iron & Steel Co., Lebanon, Pa.  
Milton Mfg. Co., Milton, Pa.  
Republic Iron & Steel Co., Youngstown, O.  
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.  
Union Drawn Steel Co., Beaver Falls, Pa.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

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Ocean Steam Pump Wks., A. S. New York, N. Y.

**Investment Securities.**

Breed, Elliott & Harrison, Cincinnati, O.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

**Jobbers. (Electrical.)**

Carroll Electrical Co., Washington, D. C.

**Kettles.** (Steam Jacketed.)

Badger & Sons Co., E. B., Boston, Mass.

**Key Seater. (Portable.)**

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**Knitting Machinery.**

Acme Knitting Mch. & Needle Co., Franklin, N. H.

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Koerting & Mathiesen Co., New York, N. Y.

Lee Electric Co., Baltimore, Md.

Piedmont Electric Co., Asheville, N. C.

Westinghouse Lamp Co., New York, N. Y.

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**Lamp Posts. (Electric Gas.)**

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Western Gas Construction Co., Ft. Wayne, Ind.

Withers Fdry. & Mach. Works, Atlanta, Ga.

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Brightley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.

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Jeffrey Mfg. Co., Columbus, O.

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Case Turbine Mfg. Co., Orange, Mass.

**Looms and Weaving Machinery.**

Draper Co., Hopkinton, Mass.

Mason Machine Works, Tannont, Mass.

Saco-Lowell Shoppe, Boston, Mass.

**Loom Harness.**

American Supply Co., Providence, R. I.

**Lubricants.**

Albany Lubricating Co., New York, N. Y.

Oil Elevator Co., New York, N. Y.

**Lubricants. (Graphite.)**

Brown Crucible Co., Joseph, Jersey City, N. J.

**Lumber.**

Industrial Lumber Co., Elizabeth, La.

**Lumber. (Creosote.)**

American Creosote Works, New Orleans, La.

**Lumber. (Heavy Construction, Pitch Pine, etc.)**

Industrial Lumber Co., Elizabeth, La.

National Lumber & Creosot. Co., Texarkana, Ark.

**Lumber Buggies.**

Seals Steam Feed Works - Meridian, Miss.

**Lumber Stackers.**

Seals Steam Feed Works, Meridian, Miss.

**Machinery. (Special.)**

Biss Co., E. W., Brooklyn, N. Y.

Kline, Lewis T., Alpena, Mich.

Universal Machine Co., Baltimore, Md.

**Machinery and Supplies. (New and Second-Hand Bargains.)**

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Chase Machinery Co., D. L., Springfield, O.

Cleveland Beiting & Machinery Co., Cleveland, O.

Consolidated Iron & Metal Co., Chattanooga, Tenn.

Contractors' Machy. & Supply Co., Pittsburgh, Pa.

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Pipe & Contractors' Supply Co., New York, N. Y.

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Johns-Manville Co., H. W., New York, N. Y.

**Magnetic Separators.**

Faxson Co., J. W., Philadelphia, Pa.

**Mall Chutes.**

Cutter Mail Chute Co., Rochester, N. Y.

**Mantels. (Tile.)**

Northcross Mantel Co., W. J., Memphis, Tenn.

**Mantels. (Wooden.)**

Northcross Mantel Co., W. J., Memphis, Tenn.

**Mechanical Draft.**

Buffalo Forge Co., Buffalo, N. Y.

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**Metaline.**

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Portsmouth Steel Co., Portsmouth, O.

**Metal Corner Bead.**

Penn Metal Co., Boston, Mass.

**Metal Culverts.** [See Culverts.] (Corrugated Metal.)

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Bliss Co., E. W., Brooklyn, N. Y.

Price Machinery Co., S. M., Norfolk, Va.

**Meters. (Water.)**

Alberger Pump & Condenser Co., New York, N. Y.

**Meter Boxes, Couplings, Gauges. (Water.)**

Clark Co., H. W., Mattoon, Ill.

**Micrometers, Calipers, etc.**

Starrett Co., L. S., Athol, Mass.

**Milk Filters.** (Liquor, Milk, etc.)

International Filter Co., Chicago, Ill.

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O'Briant, W. C., Memphis, Tenn.

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McKenna Iron Works, Charlotte, N. C.

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Salem Foundry & Machine Wks., Salem, Va.

Starr Co., B. F., Baltimore, Md.

Wolf Co., Chambersburg, Pa.

**Mining Machinery.** (Gold, Copper, Plate, etc.)

Bartlett & Snow Co., C. O., Cleveland, O.

Copeland-Inglis Shale Brick Co., Birn'g'h'm, Ala.

Dunn Wire-Cut-Lug Brick Co., Conneaut, Ohio

Southern Clay Mfg. Co., Chattanooga, Tenn.

**Mixers. (Concrete.)**

Bailey-Lebby Co., Portmouth, O.

Erdie Perforating Co., Rochester, N. Y.

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**Steam Traps.**

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Republic Iron & Steel Co., Youngstown, O.  
Tennessee Coal, Iron & R. R. Co., Birgham, Ala.  
Union Drawn Steel Co., Beaver Falls, Pa.  
Upson Nut Co., The, Cleveland, O.  
Wood Iron & Steel Co., Alan, Philadelphia, Pa.  
Youngstown Sheet & Tube Co., The, Youngstown, O.

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McKenna Bros., Brass Co., Pittsburgh, Pa.  
Union Drawn Steel Co., Beaver Falls, Pa.

**Steel.** (Vanadium)

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**Steel Buildings.** (Designers, Builders.)  
Amer. Bridge Co., of New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Champion Bridge Co., Wilmington, O.  
Chesterton Iron Works, Birmingham, Md.  
Des Moines Bridge & Iron Co., Des Moines, Ia.  
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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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Virginia Bridge & Iron Co., Roanoke, Va.

**Steel Castings.**

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Riverside Steel Casting Co., Newark, N. J.

**Steel Plate Work.**

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Chicago Bridge & Iron Works, Chicago, Ill.  
Columbus Boiler Works, Columbus, Pa.  
Cole Mfg. Co., H. D., Newnan, Ga.

**Stencils.**

Baltimore Office Supply Co., Baltimore, Md.

**Stills.** (Turpentine.)

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**Stirrups.** (Building.)

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**Stock Certificates, Bonds and Seals.**

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**Stokers.** (Hand.)

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**Storage Warehouses.**

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Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.

Vincennes Bridge Co., Vincennes, Ind.

Virginia Bridge & Iron Co., Roanoke, Va.

Wihen Fdry. & Mach. Wks., Atlanta, Ga.

**Stamp Pullers.**

Hammerman Steel Co., Lone Tree, Iowa.

**Sulphur.**

John Sulphur Co., New York, N. Y.

**Super-Heaters.** (Steam.)

Babcock & Wilcox Co., New York, N. Y.

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**Surveying Instruments.**

Weller & Co., P., Philadelphia, Pa.

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**Switchboards, Switches, etc.**

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General Electric Co., Schenectady, N. Y.

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**Switchstands.**

Vel-Frog Co., Cincinnati, O.

**Tackle Blocks.** (For Wire or Manila Rope.)

Broderick & Bascom Rope Co., St. Louis, Mo.

**Talc and Soapstone Powders.**

Gorgia Talc Co., Ashville, N. C.

**Tanks** (Iron and Steel.)

American Bridge Co., New York, N. Y.

American Water Softener Co., Philadelphia, Pa.

Caldwell Co., Inc., W. E., Louisville, Ky.

Casey-Hedges Co., Chattanooga, Tenn.

Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.

Chicago Bridge & Iron Works, Chicago, Ill.

Columbus Boiler Works, Columbus, Pa.

Cole Mfg. Co., H. D., Newnan, Ga.

Des Moines Bridge & Iron Co., Des Moines, Ia.

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Dixie Culvert & Metal Co., Atlanta, Ga.

Harry Bros. Co., Newport, Ky.

Hartley Boiler Works, Montgomery, Ala.

Keefer Co., E., Williamsport, Pa.

Keystone Boiler & Foundry Co., Columbia, Pa.

Lombard Iron Works, Augusta, Ga.

Lookout Boiler Works, Chattanooga, Tenn.

Memphis Steel Construction Co., Memphis, Tenn.

New Orleans Roofing & Metal Wks., New Orleans, La.

New York Central Iron Wks., Co., Hagerstown, Md.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield Iron Works, Macon, Ga.

Strutens-Wells Co., Warren, Pa.

Syndon Pump & Well Co., Inc., Richmond, Va.

Tennessee Metal Culvert Co., Nashville, Tenn.

Twin City Boiler Works, Bristol, Va.-Tenn.

Virginia Bridge & Iron Co., Roanoke, Va.

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Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Youngstown Sheet & Tube Co., The, Youngstown, O.

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Davis & Son, G. M., Palatka, Fla.

Syndon Pump & Well Co., Inc., Richmond, Va.

**Tapes.** (Measuring.)

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Western Electric Co., New York, N. Y.

**Telephone Service.**

American Telephone & Telegraph Co.

**Terminal Warehouse.**

Union Terminal Co., Jacksonville, Fla.

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Bibb Sewer Pipe Co., Macon, Ga.

Maryland Terra-Cotta Co., Baltimore, Md.

Pomona Terra-Cotta Co., Pomona, N. C.

Southern Building Material Co., Norfolk, Va.

Stevens' Sons Co., H., Macon, Ga.

**Threshers.**

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Economy Engineering Co., Chicago, Ill.

**Tile (Drain).**

Bibb Sewer Pipe Co., Macon, Ga.

Gray Concrete Co., Thomasville, N. C.

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**Timbers.** (Creosoted.)

American Creosote Works, New Orleans, La.

Republic Creosoting Co., Indianapolis, Ind.

**Tin and Terne Plates.**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

**Tires.** (Rubber.)

Goodyear Tire & Rubber Co., Akron, O.

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Oconee Brick & Tile Co., Milledgeville, Ga.

**Timbers.** (Creosoted.)

American Creosote Works, New Orleans, La.

Republic Creosoting Co., Indianapolis, Ind.

**Tin and Terne Plates.**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

**Toilet Flushing Device.**

Duffy & Sons Co., M. J., Louisville, Ky.

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Holland Mfg. Co., Erie, Pa.

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Chicago Pneumatic Tool Co., Chicago, Ill.

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Wall Mfg. Supply Co., P., Allegheny, Pa.

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Fairbanks-Morse & Co., Atlanta, Ga.

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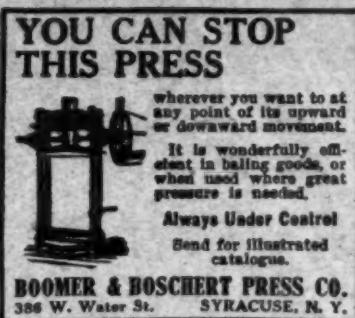
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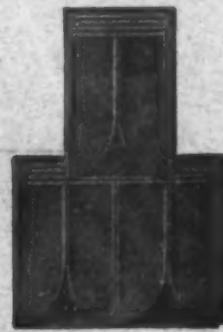
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